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the comprehensive greenway & parks plan

Cary, N.C.

THE TOWN OF CARY COMPREHENSIVE GREENWAY & PARKS PLAN
a part of the Comprehensive Plan
PREPARED FOR
THE TOWN COUNCIL, TOWN OF CARY, N.C.

Fred G. Bond, Mayor

Harold Ritter, Mayor Pro Tem
Robert Godbold, Councilman
William Garmon, Councilman
Charles Montgomery, Councilman
Koka Booth, Councilman
Thomas Brooks, Councilman

Braxton Matthews,
Town Manager

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Town Clerk

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Claude Greene
Charles Pendergraft
Byrtis Brayboy
Mike Garrity
Chuck Norman
Sonny Winters
Jerry Rodgers
Wayne Boyd

THE CARY GREENWAY COMMISSION

Doug Bryant, Chairman
Linda Setliff
Gary McCutchen
Jean Smith
Ferd Moran
Chuck Harrington
Emerson Deese
Pam McManaway

PREPARED BY

Charles R. Smith, Jr.
Greenway & Parks Planner

DEPARTMENT OF PLANNING & DEVELOPMENT
TOWN OF CARY, N.C.

Charles M. Elam, Director of Planning & Development
Michael B. Sorensen, Assistant Planning Director
Johnny Davis, Senior Planner
Daniel G. Crutchfield, Planning & Design Technician
Wendy Marnie, Secretary II
Joan Robbins, Secretary I

RECREATION DEPARTMENT
TOWN OF CARY, N.C.

R. Wayne Mingis, Director of Parks & Recreation
Samuel D. Bishop, Sr. Recreation Specialist
Michael L. Fisher, Athletic Director
Ramona M. Moore, Woman's Program Supervisor

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The *Cary News*
Cary Greenway Commission
Cary Recreation Commission
N.C. State University Department of Landscape Architecture — Randy Hester & Dick Wilkinson
N.C. State University Department of Recreation — Roger Warren
N.C. Department of Natural Resources and Community Development — John Berndt
City of Raleigh Recreation Department
Wake County Parks and Recreation Department
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INTRODUCTION

INTRODUCTION, OBJECTIVES, PURPOSE

The need for recreation is widespread. No matter where we live, what we do, what our ages are, we share this common need. We may all have different ideas of what recreation is — playing baseball, reading a book, or watching television. But far from being a luxury, recreation is a necessity in our everyday lives. Recreation is a human need, as real as the need for food and shelter — without it, we cannot maintain physical health and psychological integrity. Opportunities in recreation help to satisfy needs not satisfied by work and the demands of daily living; they provide a means of additional social integration; they provide a means of finding success and recognition that sometimes does not exist in your work; they provide additional challenges and stimulations not found elsewhere; and through recreation we can find physical, emotional and intellectual balance.

As shopping centers spring up and subdivisions grow where forests flourished in the past and meadows used to lay, it becomes more apparent that we need to be concerned with the public outdoor aspect of recreation. At present, we do not come close to meeting existing recreational needs and as a result we are in danger of not meeting future needs.

The intention of this document is to describe the existing parks and recreation situation in Cary, to analyze the Town's recreational needs for the next twenty years, and to determine how we can meet these needs.

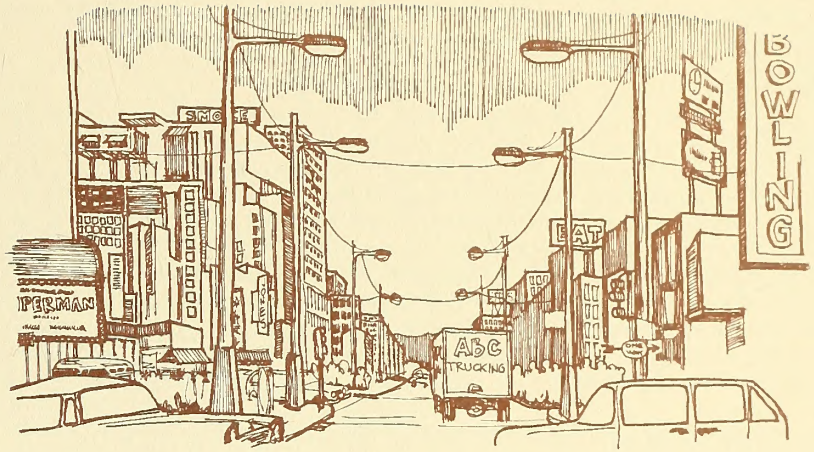
A number of factors have accentuated the need for more recreational facilities and the proper planning of these facilities. These are:

(1) THE POPULATION EXPLOSION — The mere fact that there is a growing number of people calls for an increase in recreational facilities.

(2) INCREASES IN LEISURE TIME — in the 1870's the average work week was about 53 hours; in 1975, the average was 36 hours; in 1984, the projection for the average work week is 34 hours. During the first half of this century, life expectancy increased by 18 years while working life expectancy increased by 9 years — this represents a 9 year increase in leisure time. The amount of leisure time will continue to grow in the future and people will be taking much of this leisure time for recreational purposes.

(3) INCREASE IN INCOMES — With an increase in average incomes, much of this additional income will be spent on recreational opportunities.

(4) THE LOSS OF OPEN SPACE — The loss of open space becomes more apparent everyday in our community. Although right now it is hard to imagine a day when Cary will be a totally urban area, the day will come unless we prepare a logical system of open, green space to buffer these urban areas and provide oases from the concrete.



PLAN OBJECTIVES

The main purpose of this plan is to establish a framework for the acquisition of parkland and the development of this land. It is also intended to show the tremendous lack of open space land that the Town owns, that the Open Space Ordinance will not meet this need, and what we can do to remedy the situation before Cary looks like every other city that has urbanized at an accelerated rate. Once we reach the "point of no return" in terms of available open space, it will be too late to correct past mistakes. Even though the number of facilities and their location have a direct effect on recreation programming, this document will not deal with programming per se. That should be included during the periodic updates of the plan.

Objectives included in the report are:

(1) an inventory of existing Town owned recreation land and facilities;
(2) an inventory of existing and potential users of these facilities;
(3) open space & facility standards to be used when assessing recreation needs;
(4) a determination of the Town's recreational needs and a projection in terms of acreage and facilities for the 1980's and 1990's;
(5) a year by year land acquisition program which reflects these needs;
(6) a year by year facility development program;
(7) locating resources and methods of funding; and
(8) methods of acquisition.

JUSTIFICATION

Public open space in urban areas has been justified in many ways. These various ways are discussed below:

SOCIAL

The suburban "fence relationship" or a Sunday afternoon at the subdivision tennis courts cannot replace the opportunities for social interaction available in most urban public open spaces. The stroll in the park, the sandlot baseball game and the evening band concert of the past are virtually non-existent in most urban areas where there is no public open space. People need an outdoor medium with which to interact or watch others. Most private open space cannot provide this for the general population at a cost that the population of the central city can afford. Although most suburban backyards can adequately provide for primary social interaction, most people appreciate and will use an alternative if it meets their needs and objectives for both primary and secondary interaction.

ECONOMICS

"Parks are not to be placed on economic scales to be weighed against kilowatts, productive acreage, school buildings, housing developments, parking spaces and what not. They are not to be valued in money."[1] "The social and cultural benefits of public open spaces are widely recognized, but there are few who seem willing or able to commit themselves to a study of economic values."[2] "There is no acceptable standard of evaluation that can be used to place a monetary value on parks and recreation that is not arbitrary."[3] Despite all of the difficulties associated with an economic justification of open space, one approach has been used with some success. It is commonly called "the open space-property value relationship."

Today's home buyer is looking for features beyond the confines of the house and lot. Proximity to school, park, and community recreation is high on the list of items to look for . . . In the vicinity of park and recreation areas, it is not uncommon to find values of building sites enhanced up to 15-20 percent, with a high level of sustained value over the years. Where land is developed for park purposes, the highest increment of value is usually realized in properties immediately contiguous.[4]

Olmsted's early study of the value of Central Park in New York City on adjacent properties revealed "an increase of 183,000,000 dollars in property values over and above that prior to the establishment of Central Park."[5] The Federal Housing Administration states: "It is common practice throughout the United States to place a higher valuation on subdivided land if the development contains park land or if the subdivision is adjacent to or near a public park."[6]

Open space in the economic sense becomes one of the public services Galbraith refers to as ". . . not carrying a price ticket to be paid for by the individual user such as postal service, but instead by their very nature they must be paid for by all and available to all."[7] Public open space in urban areas cannot be taken for granted when it can provide one of the significant economic and aesthetic balances to "private opulence and public squalor." Galbraith favors an adequate provision of public open space in proportion with the entire array of public services to create a "social balance."[8]

RECREATIONAL

The recreational potential of public parks is the most apparent source for justification of public open spaces.

Recreation is a vital need in today's world. It is perhaps the greatest opportunity for self-expression, for doing what one really wants to do, not what one is forced to do to earn a living. The very things which have brought leisure and income have also brought serious tensions for everyday life — both working and living take place hurriedly, under crowded and noisy conditions. Recreation under conditions of one's choosing is necessary to relieve these tensions. For many, the physical activity of outdoor recreation is vital in building and maintaining physical fitness and in discharging nervous energy. Although recreation is not a panacea for delinquency, it has important values in reducing delinquency . . . And perhaps most important, recreation is simply good fun. Man does not live for work alone; when he can play he does.[9]

Outdoor recreation is also one means of maintaining and improving this nation's physical health. "The average urban American today is characterized by a relatively poor state of physical condition as compared to what it could be under his high standard of living."[10] Overcrowded conditions and lack of public open space in most urban areas deny adequate opportunities for outdoor physical exercise. President John F. Kennedy said:

> There are an increasingly large number of young Americans who are neglecting their bodies — whose physical fitness is not what it should be — who are getting soft, and such softness on the part of the individual citizens can help to strip and destroy the vitality of a nation.[11]

Another recreational justification of public open space is the limit of private resources and effort that can economically be devoted to it. Hiking trails, bicycle paths, bridle trails, and even the common softball field generally cannot be rationalized in private ownership. Their extensive nature is beyond the income level of the average urban dweller without public subsidy. The extravagant use of land involved in duplication of facilities would be contrary to urban form and function.

When aesthetics is related to outdoor recreation a more intangible, but nevertheless important, type of justification can be associated with some types of urban open space. "Woe unto them that join house to house, that lay field to field, til there be no place that they may be placed alone in the midst of the earth."[12] Open spaces are not just places to visit, exercise in or learn from. They are areas in which one may encounter the aesthetic values of trees, sky and the feeling of unenclosed space. "Man seeks a meaning to life through God."[13] He constantly seeks to find expressions of God's creativeness in nature. In an urban area the character of some public open spaces can provide a limited contact with nature.

GOVERNMENTAL

Public open spaces offer one opportunity to implement the "democratic ideal." They should be of, by, and for the people. Deasy said: "There should be, in this town, and in every town some tracts of land adequate in size and beautiful in location dedicated and consecrated to the public where children may meet and play and imbibe lessons in liberty and Democracy."[14]

"(We) must understand the genuine needs of people, that government must change its priorities and policies to reflect these needs, and that a more human use of space can be made only if users, designers, and government act in concert toward that end."[15]

Public open space can and should be one outward symbol of a community's pride in itself as well as a place where all of its citizens can come for leisure activities and inspiration, and to experience the fellowship of others. Few American cities are so poor that they cannot afford the blessings of public open space — and few so rich that they can afford to do without it.

PSYCHOLOGICAL

A psychological justification for public open space is based on the emotional needs which cause most urbanites to seek open space, open sky and solitude.

"Being crowded is the almost universal experience of today's urban dweller. His home grows smaller, his highways are congested, recreation places saturated and open landscape devoured as the squeeze for land in metropolitan America begins."[16]

The term "re-creation" denotes another basic psychological justification of open space. As stress has become an urban way of life, the pace of living has increased to a tempo capable of injuring the nervous system. John Burroughs said, "we live, most of us, in a noisy world — a world full of hurrying to and fro, of rattling machinery, of clanging bells, of shrieking whistles, the world of business. In the midst of this tumult and confusion we lose our grip upon ourselves, and feel the strain so keenly that we realize we will break under it unless we find relief."[17]

EDUCATIONAL

The potential of public open space in urban areas for educational purposes has been demonstrated by the establishment of outdoor education programs in many elementary and secondary schools. "The role of public open spaces in this educational effort is indispensable. As outdoor classrooms and laboratories, they can add a dimension of life and dynamism to the science curriculum to make studies more meaningful."[18]

Many educators feel that there are few better places to teach an urban child some of the basic relationships of urban life such as competition, survival or reproduction of natural surroundings. With proper development and interpretive methods, a visit to most public open spaces can be an educational experience.

We should stop looking outside our cities to other agencies to fulfill our need for open space and facilities. We need to start acquiring and creating public open spaces of appropriate size, scale, and character within the area. An urban area lacking physical and natural diversity cannot provide the potential environmental richness that is necessary to the quality of life.

The people in an urban area need open space for many different purposes: "... to conserve water and other natural resources; as a reserve for future needs, often unpredictable; to maintain special types of agriculture which must be near cities; to prevent building in undesirable locations in order to avoid flood hazard or a wasteful extension of services, to provide a rural environment for people who want to live that way; for pleasant views from urban areas, for a sense of urban identity; for buffers against noise and other nuisance; but above all, for recreation, which can be combined with many of the other uses."[19]

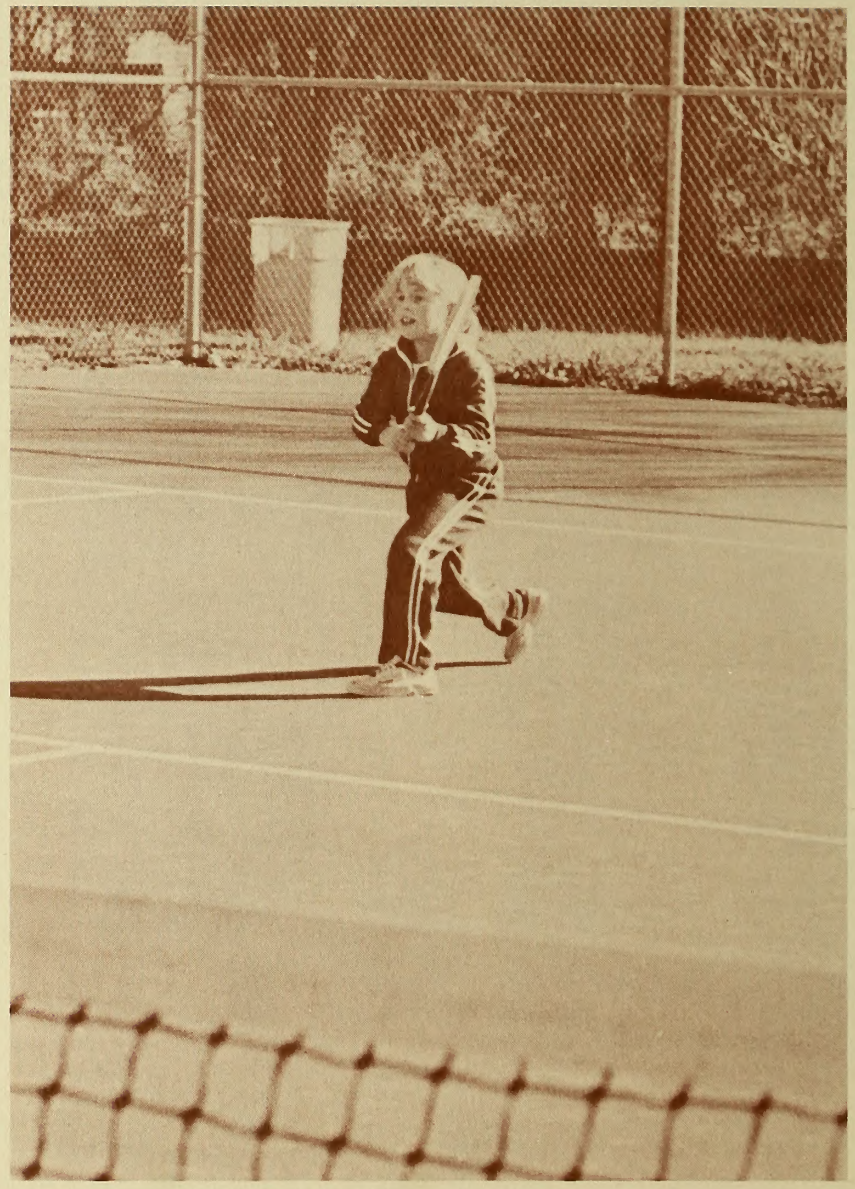
GOALS

The plan has a set of specific goals which apply to individual projects but also apply to our entire recreation system. These are:[20]

a. Sufficiency — Sufficient recreation resources are needed to insure that enough park and recreation facilities and open space are available to meet the demand.

b. Equality and Opportunity — In a democratic society such as ours, all citizens are entitled to equal treatment by government, and this includes consideration of groups and classes as well as individuals. Sometimes expressed as the need to provide distributive justice, it involves, in this case, the equitable distribution of resources so that suitable recreational opportunities are available to everyone — to those who prefer active recreation, to those who prefer passive, and to persons with or without transportation — regardless of economic or social status.

c. Variety — There should be a variety and choice of recreation areas and opportunities: in terms of geography and physiography — so that



experiences are available in diverse natural settings; in terms of the recreational activities offered at different recreation sites; and in terms of the type of recreation outing (weekday or weekend).

d. Accessibility — Recreation areas and facilities should be located on or connected with adequate roads, so that they may be reached with safety and relative ease, and convenient to their user population, given their recreation function.

e. Availability — Recreational opportunities should be available on a relatively equal basis to the population classified in various ways. That is, recreational opportunities should account for the tastes of both sexes and various age groups; they should provide for families at various income levels as well as for white and non-white groups. An acceptable level of recreation opportunities should be provided for those unable to pay user fees or charges or incur the costs of transportation.

f. Quality — The quality of different recreation areas and facilities — and even the recreational experience — depends, to a great extent, on maintenance, but it also involves proper planning and design so that a given facility is suitable for the recreational needs of the users in the area. Recreation areas and facilities vary in the extensiveness of facilities and the intensiveness of use, and maintenance must be provided if the quality of an area is to be maintained, its appeal preserved, and the respect of the people won.

g. Efficiency — The efficient use of resources is of utmost importance with respect to each project design and to the allocation of funds. A given project should be completed at a minimum cost which yields the most benefits to the people. In some cases, this may be accomplished by the design of recreation facilities for multiple purposes and uses and by taking advantage of existing facilities and natural areas.

h. Adaptability — The design and development of recreation areas should foreclose as few opportunities for future use as possible, allowing instead for adaptation with the transition of the user population and the addition of new activities and facilities as needed.

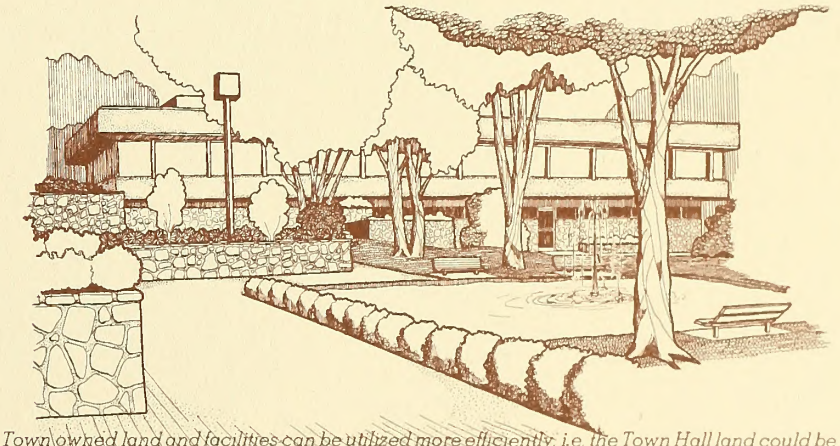
i. Aesthetics — It is important that a given recreation facility be compatible with the surrounding area, contributing to the environment. Certain aesthetic touches such as plentiful trees, large shaded areas, and plantings are definite assets. Clutter — too many facilities in too small a space — should be avoided if at all possible.

j. Flexibility — There are mitigating circumstances which require some modification of the standards or the plans. The reasons for this are three-fold. First, a degree of flexibility must be maintained in the application of standards, particularly at the neighborhood level, because they are affected by physical and social characteristics. Second, it is important that people in the area of an existing or proposed facility be thoroughly involved in the planning and, possibly, operation of parks in their area. In this case, some deviation from the standards is not only warranted but essential. For example, there are certain neighborhoods where, because of the availability of private facilities and the wishes of residents, parks should be predominantly passive in nature. And third, the departments, commissions, and agencies involved in this plan do not consider it unchangeable. It is intended as a guide to future development and is to be amended and revised as conditions warrant.

The key here is the design and the location. "Parks can and do add great attraction to neighborhoods. The more successfully a city mingles everyday diversity of uses and users in its everyday streets, the more successfully it's people thereby enliven and support well located parks that can thus give back grace and delight to their neighborhoods instead of vacuity."[21]

Poorly designed open spaces which have little diversity of use and social interaction can and usually will promote increased crime and vandalism. Design, location, and supervision of the open space are the limiting factors, not the provision of open space itself.

The need for parks and open space is more apparent than it has ever been before. We are at a critical point now because our resources become more limited every passing day — our supply of undeveloped land is dwindling at a rapid rate and extra demands are being placed on our available capital. This plan hopefully offers some guidance for the future, but without bold and innovative leadership, goals will never be realized and needs will never be met.



Town owned land and facilities can be utilized more efficiently, i.e. the Town Hall land could be used as a passive, downtown park.

PRESENT SITUATION

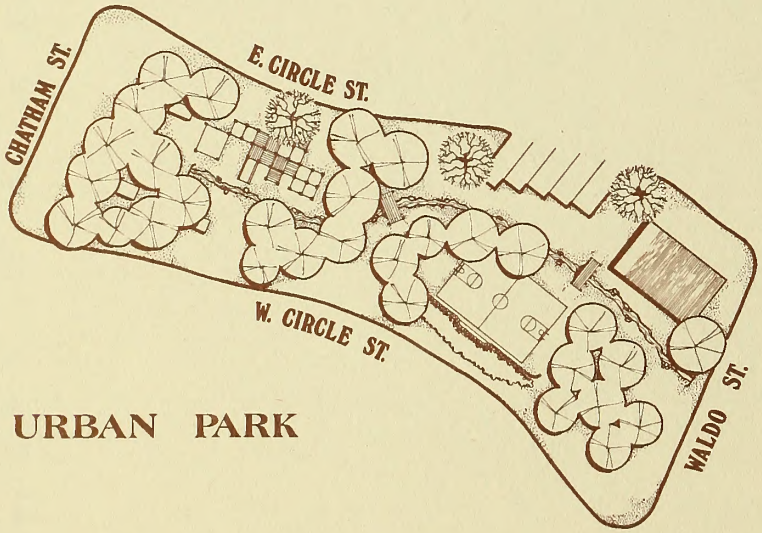
HISTORY

From Cary's founding in 1871 through the early 1900's, activities that occurred were generally the same as those that occurred throughout the South. The schools and churches of the Town were the focal points for social activities, but the primary diversion for everyone was visiting friends and relatives.

A 1923 map showed that the Town's first ball field was located in the block of Walker Street and East Park Street. This at one time was the high school ball field but it soon relocated at Kildaire Farm Road and Byrum Street. Also at this time a roller skating rink was located on the second floor of the Harrison Wagon Company (where the Wake Farmers Co-Op Egg Market was). Other primary recreation activities were picnicing, bicycling, swimming, and fishing.

Up until 1955, if a Cary resident wanted to be involved with an organized recreation program he had to travel to Raleigh for this participation.[22] At this point the Raleigh City Council banned participation by non-residents of Raleigh — they didn't want to provide recreational services to people living outside the city limits.

The Cary Lions Club was chartered in 1956 and it's first item of business was to get into a baseball program. This started with four little league teams playing on a makeshift field at the Amp Plant on Madison Avenue which was loaned to the Lion's Club by R.O. Heater. In 1958 this field was sold so that the Town was again left with no facility.



URBAN PARK

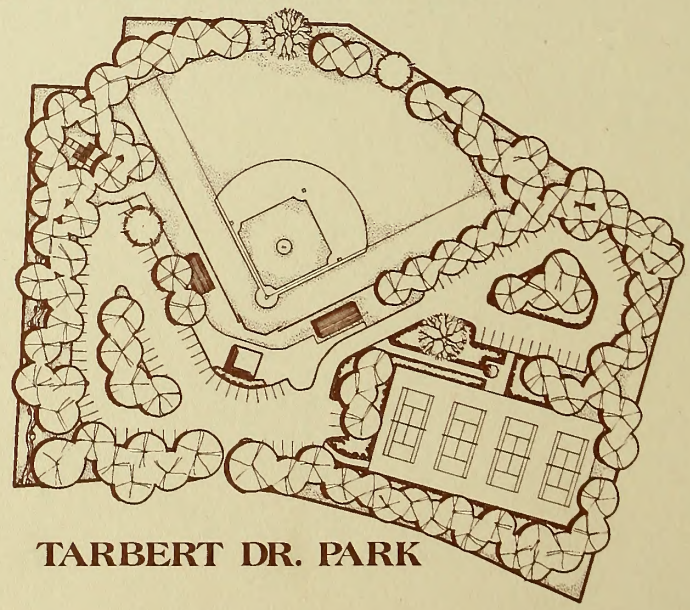
In 1959, club members from the Lion's Club, the Jaycees, and the Exchange Club donated money to purchase an option on the land where the Triangle Swim Club is now located. Junior league games were played on what is now Franklin Field.

The Town Council appointed a Recreation Commission in 1962 with the main purpose of managing and developing a summer baseball league. This appointed advisory board had a budget of $500.00 a year. This budget and the interest increased yearly until a full-time recreation director was hired in 1970. His primary duties were to supervise the ball programs and a volunteer staff.

In 1968, the Cary Chamber of Commerce saw the increasing need the Town had for recreation facilities and developed Jordan Hall as a community center. There was not a significant increase in the amount of parkland until the early 1970's with the development of the following parks:

1971	Burtrose Park
1972	Lane Field
1973	Urban Park, Dorothy Drive Park
1974	Walnut Street Tennis Courts
1975	Heater Park, Jordan Hall
1978	Tarbert Drive Park

At present there is one recreation director, three program supervisors and one park maintenance man in the department.


TARBERT DR. PARK

USER INVENTORY

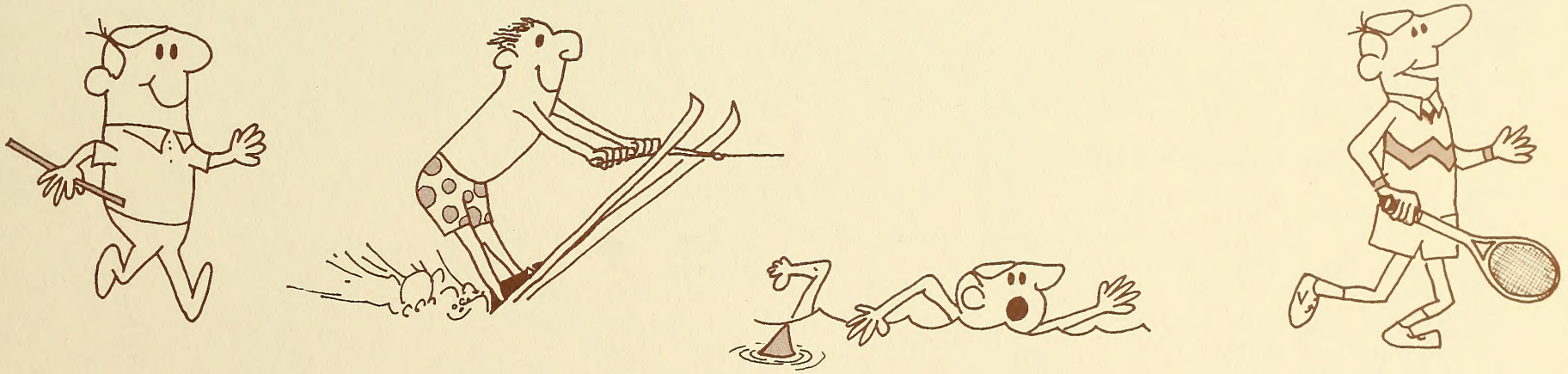
The most recent demographic information comes from a special census taken in 1975. Much can be learned about the various kinds of recreational opportunities that should be offered to the Townspeople by looking at this information.

Summary

1. Cary has a young population — the median age is 26.2 years.
2. Over 60% of Cary's residents are in the 18-64 age group and less than 5% are in the over 65 age group.
3. Cary is predominantly a single-family residence community.
4. Only 32.4% of the people five years old or older in the Cary area in 1970 were in the same house in which they lived five years before. This points to the mobility of the Cary residents.
5. The Cary area is relatively well-educated. Almost 50% of the population has had some college training.
6. The area has a very high average income — fully 68% of Cary's residents earn more than $15,000/year.
7. Cary's growth rate is presently the fastest in the state for Towns with populations over 10,000 and one of the fastest in the country. Since 1960 the population has increased six times over and it will triple in the next twenty years.

Conclusions

The average Cary resident is young, well-educated and earning an above average income. We can come to a few conclusions from this. Over three-fourths of the people in Town are in the "participation" category able to participate in recreational activities. The demographic breakdown would indicate that sports such as golf and tennis would be very popular and cultural events would be popular. These activities cost money, but these services are expected and they could be afforded by the Townspeople. The primary conclusion is that we are growing *very* rapidly and we have to plan for our recreational, open space future.

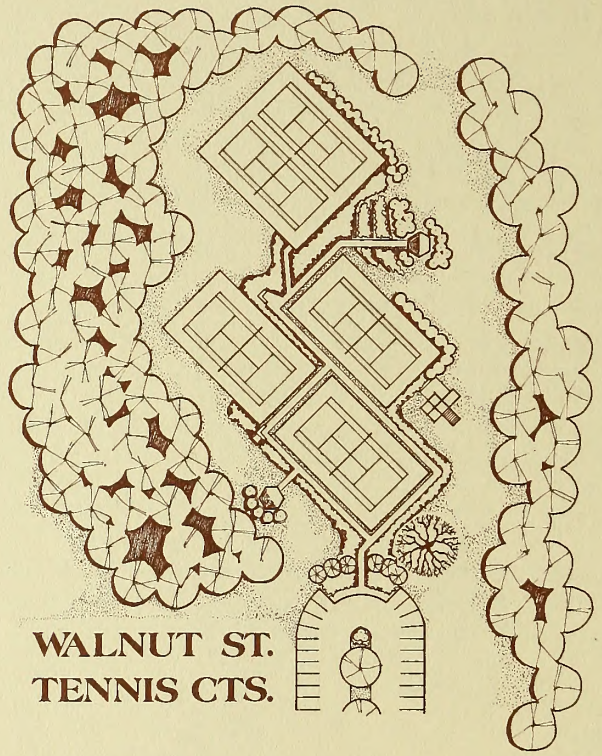


Over 3/4 of the people in Cary are in the "participation" category

EXISTING RECREATION ACREAGE AND FACILITIES

Under any comparison, Cary is lacking in recreation land and facilities. Presently, the Town has eight parks; four of these are under two acres in size and the largest is Tarbert Drive Park at approximately 7.8 acres. The following is a list of the parks and their total acreage:

	TOTAL ACREAGE	DE-VELOPED	UNDE-VELOPED	FLOOD PLAIN
Jordan Hall	2.38	1.00	1.38	
Lane Field (Neighborhood Park)	5.86	4.86	1.00	
Urban Park (Mini-Park)	1.66	1.66		
Walnut Street Tennis Courts (Neighborhood Park)	5.74	2.77	.97	2.00
Burtrose Park (Mini-Park)	.60	.60		
Dorothy Park (Mini-Park)	.64			.64
Tarbert Drive Park & Greenway (Neighborhood Park)	10.55	7.2	2.85	.50
Heater Park (Mini-Park)	1.56			1.56
TOTAL ACREAGE	28.99	18.09	6.20	4.70



THE POTENTIAL ACTIVITIES FOR EACH PARK ARE:

Jordan Hall —
neighborhood center

Lane Field —
minor league softball field
playground equipment

Urban Park —
recreation center
basketball slab
playground equipment

Walnut Street Tennis Courts —
5 tennis courts
playground equipment
2 gazebos

Burtrose Park —
2 tennis courts
playground equipment

Dorothy Park —
passive open space

Tarbert Drive Park —
5 tennis courts
Little League — softball field
playground equipment
comfort station
greenway path

Heater Park —
passive open space

EXISTING
RECREATION
FACILITIES

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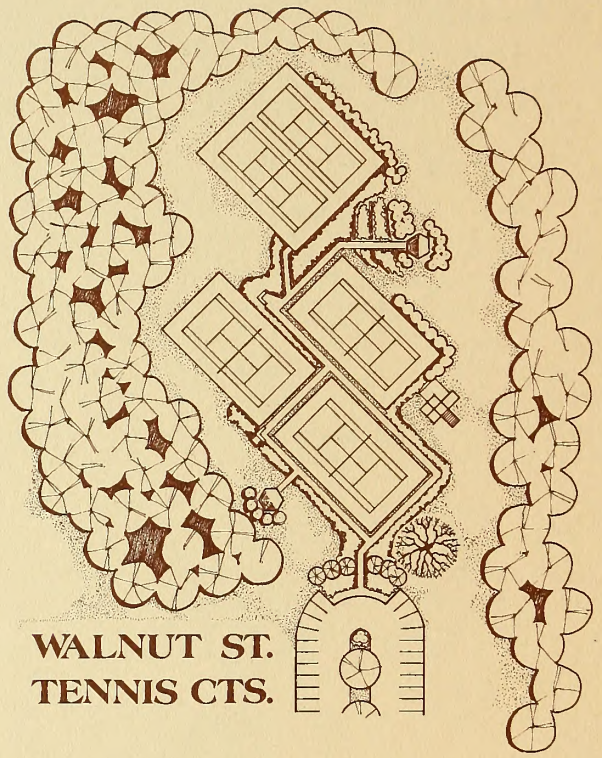

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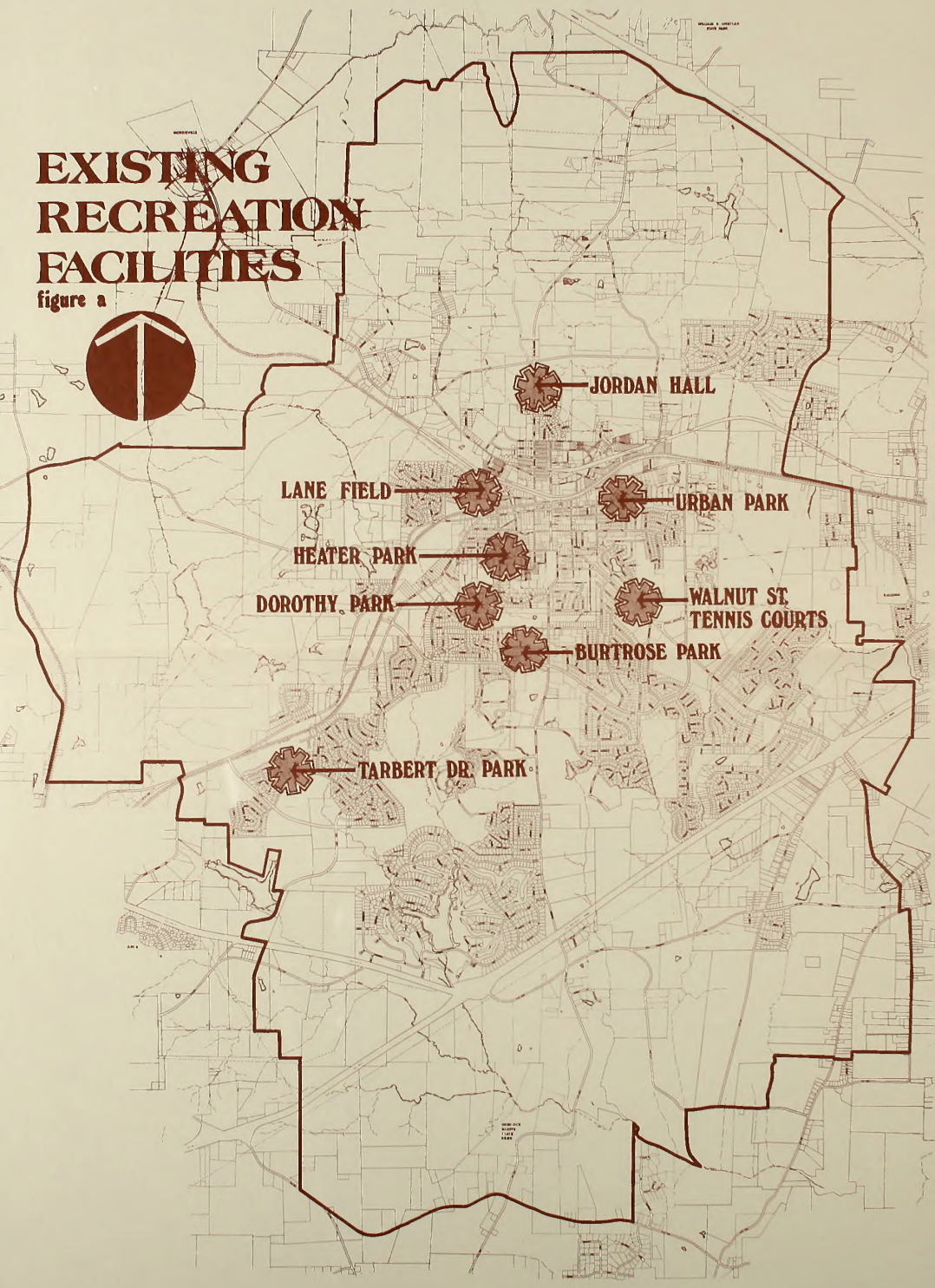
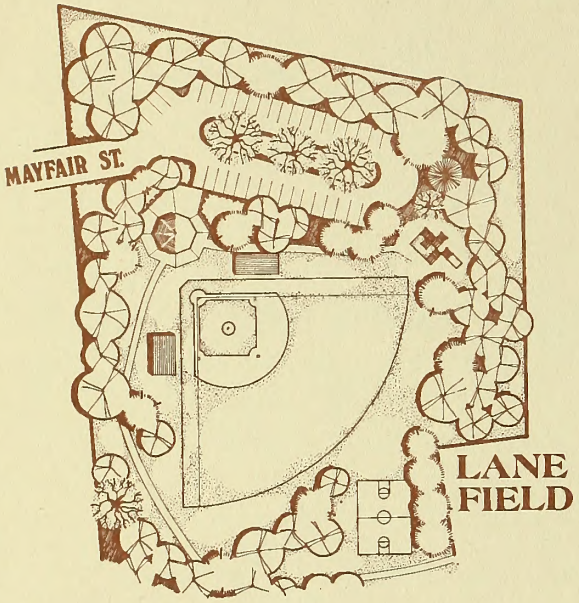
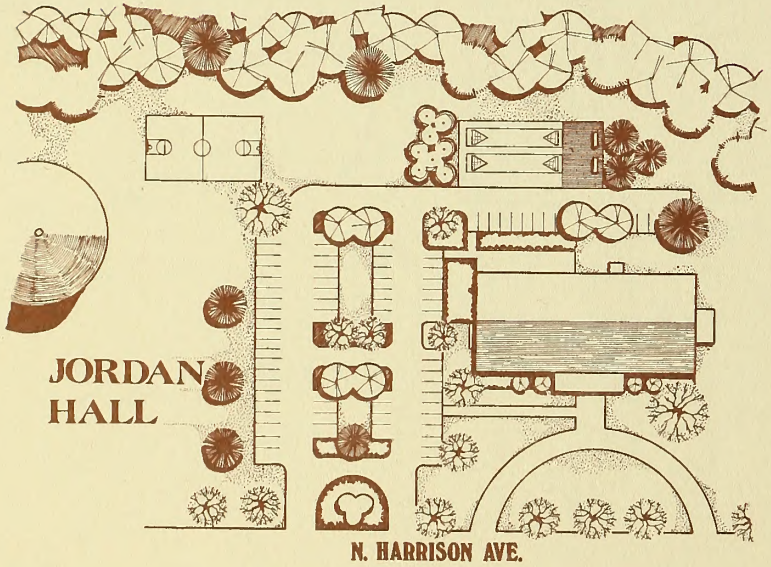
EXISTING RECREATION FACILITIES

figure a







PROJECTS COVERED BY THE BOND REFERENDUM

This past year a $500,000 bond passed in order to improve recreation facilities in the Town. During the next two to three years this money will be used to fund various projects and the assumption is made that these projects will be completed by 1981.

The following is a list of these projects:

1. **Athletic Field Lighting Systems**

This project involves lighting the ball field at East Cary Junior High School. It is based upon the growth in the demand for athletic fields available for use by town citizens.

2. **Lake #3** (Wake County Flood Control Structure)

This project involves a joint venture between the Town of Cary and Wake County in developing a water based recreation area at this site. Preliminary plans include picnic facilities, boat docks, comfort stations, fishing areas, nature areas, and related passive family recreation.

3. **Lane Field Renovation**

This project involves construction of a new parking area on the north boundary of the park, renovation of the ball field, backstop and fencing, construction of a comfort station and basketball slab, and landscaping of the entire park. This recommendation is based upon the need to upgrade a declining park into a useful attractive facility.

4. **Special Projects**

These projects involve expenditure of a portion of the referendum monies to upgrade and complete existing facilities and to provide recreation facilities in areas of Cary where the Town does not own sufficient land to construct a more complex facility.

Dorothy Park (Dorothy Drive)

Construction of an outdoor activity area (basketball-volleyball, etc.)

Heater Park (Dry Ave.)

Construction of a gazebo, park benches, walkways, water fountain, and a wide variety of horticultural plantings.

Jordan Hall (N. Harrison Ave.)

Construction of an outdoor activity area (basketball-volleyball, etc.), two shuffleboard courts and related landscaping. Also the parking area will be paved.

Walnut Street Tennis Court Complex (Walnut Street)

Construction of a comfort station/equipment storage facility and outdoor activity area (basketball-volleyball).

West Cary Junior High School (Evans Road)

Construction of a physical fitness trail and outdoor activity area.

PARKS

PLANNING ASSUMPTIONS

In the preparation of this plan, a number of assumptions have been made. For the information in hand right now, these assumptions are completely valid, but this may change in the future. If the future does prove any one of these to be incorrect, periodic updates can take this into account and change the plan accordingly.

1. By 1985, the Crabtree sewer outfall line will have been constructed. This will enable the western and northern portion of Cary to become urbanized and will cause a population increase.
2. We acknowledge the fact that school land and facilities will be used by Town programs, but this is something that cannot be depended on all the time. With use by the school and the community, we can plan for the facilities to be available approximately 1/3 of the time. While we will probably always have limited use of these facilities, they should not be included as Town facilities.
3. Private developments provide recreation facilities for their residents and fill some recreational needs, but they must also depend on Town facilities. The facilities and park acreage they provide will also be increasing through time and this will have to be assessed during updates of the plan to determine actual needs of the area.
4. Park type names i.e. community parks, neighborhood parks, etc. do not confine parks to certain facilities. This determination will be programmed into the park at a time near the development date. For example, a 10 acre neighborhood park is defined as having a ball field, multi-use court and tennis courts but this does not restrict us from using the 10 acres entirely as a tennis complex if our needs dictate this at the time of development.
5. Mini-parks will be used in areas where there is little open space left and little else can be done in terms of providing recreational facilities.
6. During this 20 year period of development, a high priority will be placed on land acquisition for open space and park land. There is no imaginable way that the Town Open Space Ordinance will provide us with enough land to meet our needs during the planning period.
7. Grant monies will provide us with 1/3 of our recreational funds during this planning period.
8. By 1981 we will have finished spending the bond money from the 1977 referendum on various projects including Northwoods Park and McDonald Woods Park.
9. The Open Space Dedication Ordinance will provide us with 1/3 of our needs in terms of projected park acreage.
10. Hemlock Bluffs will be a passive, natural park in the Cary Park System during the relatively near future. This will possibly include a nature museum.
11. There will be an 8% annual increase in Cary's tax base. At the time of the completion of the Crabtree Sewer Outfall Line — approximately 1985 — this percentage figure will increase to 10%.
12. With an increase in the number of recreational facilities, we will require an increase in personnel for the planning, supervision and maintenance of these facilities. This initial expense will be greater and gradually level off as the number of facilities grow. For example, one park may cause additional expenses for planning and park upkeep at a hypothetical expense of $100 while five parks will only increase this to $150. The greater the number of facilities, the cheaper the maintenance cost per facility.

STANDARDS

How is it determined exactly what will be needed in terms of recreational facilities in Cary? First of all we need an accepted standard with which we can compare what we already have and what we hope to have. This indicates if there is a deficit or surplus of parkland, tennis courts, ball fields, etc.

The State of North Carolina has an accepted set of standards that are generally followed by most municipalities in the State (See Appendix). The standards this plan will follow are based on the State standards with slight variations due to demographic distinctions in the Cary area.

Urban Recreation Parks (Metro Park)

This park will serve the entire town with an area of 100-200 acres. Facilities may include a four-field complex of ball fields, an 18 hole golf course, an aquatics center, etc. The standard calls for four acres per 1000 population.

Community Recreation Parks

These parks will serve approximately 10,000 people all within a two-mile radius with the size of the parks ranging from 40-75 acres. Facilities may include a community center/gym, tennis courts, ball fields, multi-use courts, a swimming pool, etc. The standard calls for 2½ acres per 1000 population.

Neighborhood Parks

These parks will serve approximately 3-6,000 people all within a one-half mile radius with the size of the parks ranging from 7-15 acres. Facilities may include multi-use courts, neighborhood centers, ball fields, tennis courts, picnic areas, tot-lots, etc. The standard calls for 2½ acres per 1000 population.

Mini-Parks

These parks will serve approximately 2,000 people all within one-quarter mile of the facility. The size of the park should not exceed two acres. Facilities are generally limited to passive areas for sitting and walking or children's tot-lots, but they may also contain multi-use courts in areas where needed. This type park is generally located in an area where there are no other possibilities for recreation facilities because of a lack of open space (i.e. Old Cary which has almost reached maximum development). Standards call for one acre per 1000 population.

Totals

Metro Recreation Parks	4	acres/1000	pop.
Community Recreation Parks	2½	acres/1000	pop.
Neighborhood Recreation Parks	2½	acres/1000	pop.
Mini-Parks	1	acre /1000	pop.
Total	10	acres/1000	pop.

Is this 10 acres per 1000 population a realistic figure to work with? A check around North Carolina shows that at present it seems to be very realistic —

Raleigh	10.93 acres/1000 pop.	Burlington	9.7 acres/1000 pop.
Charlotte	6.73 acres/1000 pop.	High Point	46.1 acres/1000 pop.
Durham	19.2 acres/1000 pop.	Garner	15.5 acres/1000 pop.

Special Facilities

Tennis Courts	1 per 1,000 population
Swimming pools (50m.)	1 per 20,000 population
Neighborhood Centers (located in neighborhood parks)	1 per 10,000 population
Community Centers (located in community parks)	1 per 20,000 population
Passive water sports	20 acres/25,000 population
Active water sports	100 acres/50,000 population
Outdoor theatre	1 acre/25,000 population
Nature Study Areas	5 acres/1,000 population
Golf Course	1 per 25,000 population
Baseball diamonds	1 per 6,000 population
Softball diamonds	1 per 3,000 population

NOTE: An additional number of tennis courts and swimming pools will be provided by private developments, but the availability of these facilities is generally confined to the residents of the developments. The actual needs for these two types of facilities should be determined during the updates of the plan.

Comparison of Standards to Existing Facilities

When comparing our existing population and Town-owned recreation facilities to standards, we begin to see why there is such a problem in the Town's meeting the recreational needs of its citizens.

1978 Population	18,000
10 Acres/1000 Population Desired	180 Acres
Present Recreation Acreage	29 Acres
Present Deficit	151 Acres

Breaking this down into park types and facilities:

Metro Park	72 Acres
Community Park	45 Acres
Neighborhood Park	45 (less 22 acres existing)=23 Acres
Mini-Parks	18 (less 7 acres existing) =11 Acres

... and into the number of parks:

Type	Min. Size	Deficit
Metro	100-200 acres	Do not yet need
Community	40-75 acres	1 park
Neighborhood	7-15 acres	2-3 parks
Mini-parks	2 acres	5-7 parks

Special Facilities	Needed	Exist	Deficit
Tennis Courts (1/1000 population)	18	11	7
Swimming Pool (50m.) (1/20,000 population)	0	0	0
Neighborhood Centers (1/10,000 population)	2	2	0
Community Centers (1/25,000 population)	1	0	1
Water Sports (20 Ac/25,000 population)	15 ac.	0	15 ac.
Outdoor Theatre (1 ac./25,000 population)	1 ac.	0	1 ac.
Golf Course (1/25,000 population)	1	0	1
Softball diamond (1/3,000 population)	6	2	4

An analysis shows that the main problem is the lack of parkland — we presently have 16.6% of what is needed in terms of park acreage. We do not have the population to support a metro park although by the time an adequate site is located, purchased and developed we will almost meet that population figure. We have the population to support one community park, two or three more neighborhood parks, and five additional mini-parks. With Cary's rapid growth rate, this problem of an inadequate amount of recreation land is only going to get worse unless we begin finding solutions and implementing them. The Town's Open Space Ordinance is not going to meet this need.

In terms of special facilities, there is an immediate need for more tennis courts and more ball fields. We are also rapidly approaching the need for a swimming facility, golf course, and community center. Again by the time we find sites and have them developed, we will meet the standards.

FUTURE PLANNING

Our next step is to try to make these standards apply for the next twenty years. The problem here is not one of making a big surge by building ten parks in the next five years and sitting back and enjoying this growth. We have to establish an overall plan that is continually meeting the recreation needs of the Town and will continue to do so as our population grows.

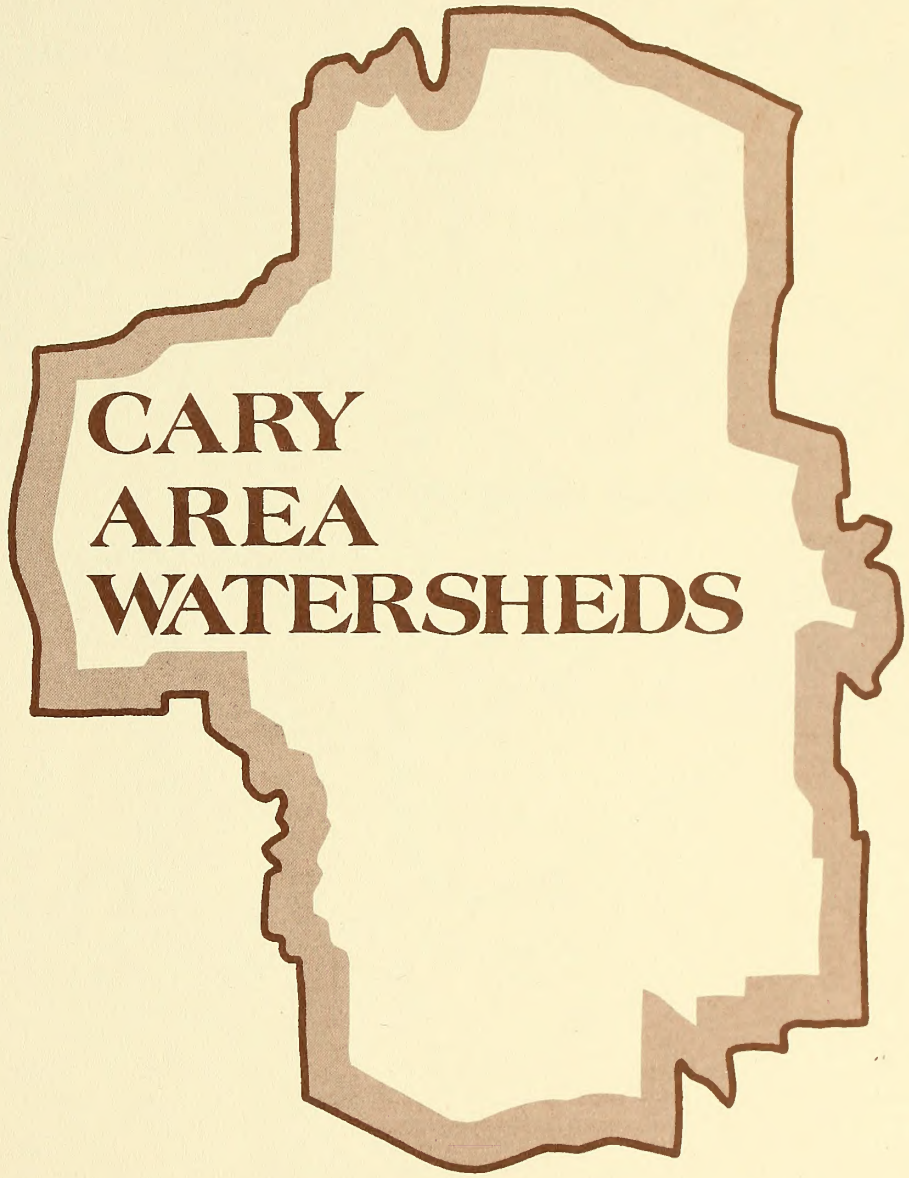
So how is this to be done? First of all we have to determine what our population is going to be five years from now; ten years from now; twenty years from now. When we do this we can begin to accurately apply our standards and determine our recreation needs.

We need to be able to determine manageable population figures that are accurate and systematic. To do this we need to come up with building blocks that make up the Town and determine the populations for them.

The Basic Planning Unit

As in all of Cary's comprehensive planning efforts, we will be using the watershed as our basic planning unit. There are two common denominators that determine just what a watershed is. First, a ridge-line, no matter how large or small, separates one watershed from another. Secondly, this forces water down to the basin of the watershed by gravity to a central moving body of water like a stream or river.

The reasons we use the watershed as the basis of our planning are threefold. First we are dealing with land and assessing its potential and resources, and the basic building block of the land is the watershed. Second, since land does not have uniform characteristics, we need to be able to break it up into manageable units. Then we can look at each separately according to these individual characteristics. Finally, the watershed gives us a systematic format for looking at the natural systems surrounding us. We have to be aware of both natural systems and man-made systems and place them in formal harmony with each other.


CARY
AREA
WATERSHEDS

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Neighborhood	7-15 acres	2-3 parks
Mini-parks	2 acres	5-7 parks

Special Facilities	Needed	Exist	Deficit
Tennis Courts (1/1000 population)	18	11	7
Swimming Pool (50m.) (1/20,000 population)	0	0	0
Neighborhood Centers (1/10,000 population)	2	2	0
Community Centers (1/25,000 population)	1	0	1
Water Sports (20 Ac/25,000 population)	15 ac.	0	15 ac.
Outdoor Theatre (1 ac./25,000 population)	1 ac.	0	1 ac.
Golf Course (1/25,000 population)	1	0	1
Softball diamond (1/3,000 population)	6	2	4

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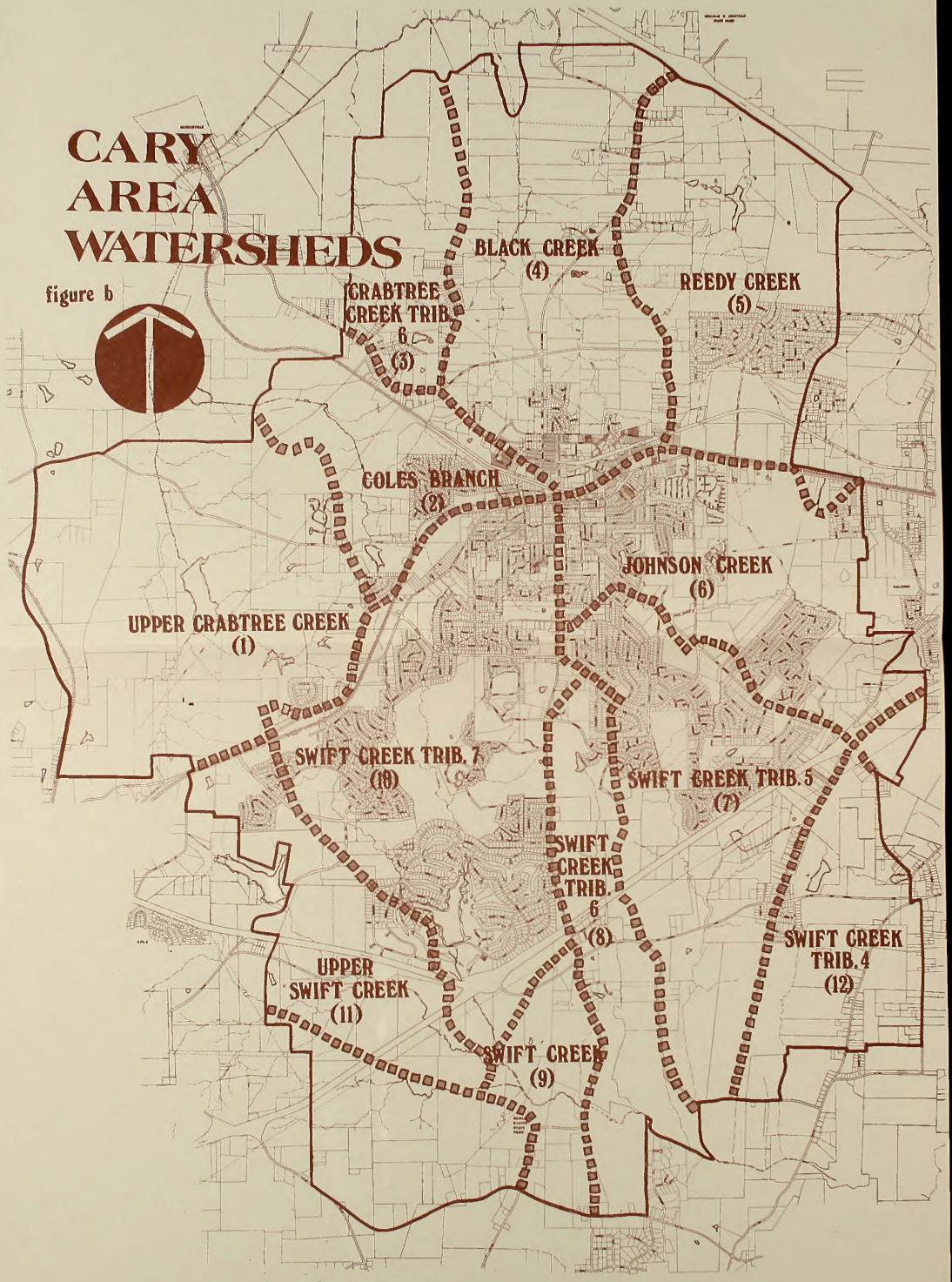
CARY
AREA
WATERSHEDS
figure b
BLACK CREEK
(4)
REEDY CREEK
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CRABTREE
CREEK TRIB.
6
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COLES BRANCH
(2)
JOHNSON CREEK
(6)
UPPER CRABTREE CREEK
(1)
SWIFT CREEK TRIB. 7
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SWIFT CREEK TRIB. 5
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CREEK
TRIB.
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SWIFT CREEK
TRIB. 4
(12)
UPPER
SWIFT CREEK
(11)
SWIFT CREEK
(9)

Population Projections

Taking the population projections from *Technical Report #4 of the Comprehensive Plan* and updating them accordingly (See Appendix), we are ready to begin assessing our recreational needs for the next twenty years. The figures have been broken down into four five-year time periods listing the population of each watershed. If we can get smaller units for a population breakdown, such as watershed, and smaller blocks of time to work with, then chances are greater that the figures will be more accurate. Finally, these figures represent the populations of the two mile planning jurisdiction and not the Town limits; the Town limits will be constantly changing and the watershed size more closely corresponds to the two mile limit line.

USE OF STANDARDS AND PROJECTIONS — 1983

The breakdown for 1983 shows that we are falling further behind in our comparison of needs to standards.

1983 Population	25,142
10 ac/1000 Population Desired	250 acres
*Present Recreation Acreage	72½ acres
Present Deficit	177½ acres

Breaking this need down into park types and facilities:

Metro Park	100	ac.
Community Parks	62½ ac. (less 20 ac. exist.)=42½	ac.
Neighborhood Parks	62½ ac. (less 45 ac. exist.)=17½	ac.
Mini-Parks	25 ac. (less 7 ac. exist.)=18	ac.

. . . and into the number of parks:

Type	Min. Size	Deficit
Metro	100-200 ac.	1 park
Community	40-75 ac.	1 park
Neighborhood	7-15 ac.	2 park
Mini-Parks	less than 2 ac.	9-12 parks

Special Facilities	Need	Exist	Deficit
Tennis courts (1/1000 pop.)	25	17 (2)	8
Swimming pools (50m.) (1/20,000 pop.)	1	0	1
Neighborhood Centers (1/10,000 pop.)	2	2	0
Community Centers (1/20,000 pop.)	1	0	1
Water Sports (20 ac./25,000 pop.)	20 ac	20 ac (3)	0
Outdoor Theatres (1 ac./25,000 pop.)	1 ac.	0	1 ac.
Golf Courses (1/25,000 pop.)	1	0	1
Baseball Diamonds (1/6,000 pop.) (Regulation)	4	0	4
Softball Diamonds (1/3,000 pop.)	8	3 (1)	5

(1) New McDonald Woods Neighborhood Park — 1 softball field
(2) New Northwoods Neighborhood Park — 6 tennis courts
(3) Lake #3 Community Park Phase I

*These figures are based on the assumption that the 1978 bond helped cover 3 new projects:

1. McDonald Woods Neighborhood Park (or a park in that population area)
2. Northwoods Neighborhood Park
3. Lake #3 Community Park Phase I

1983

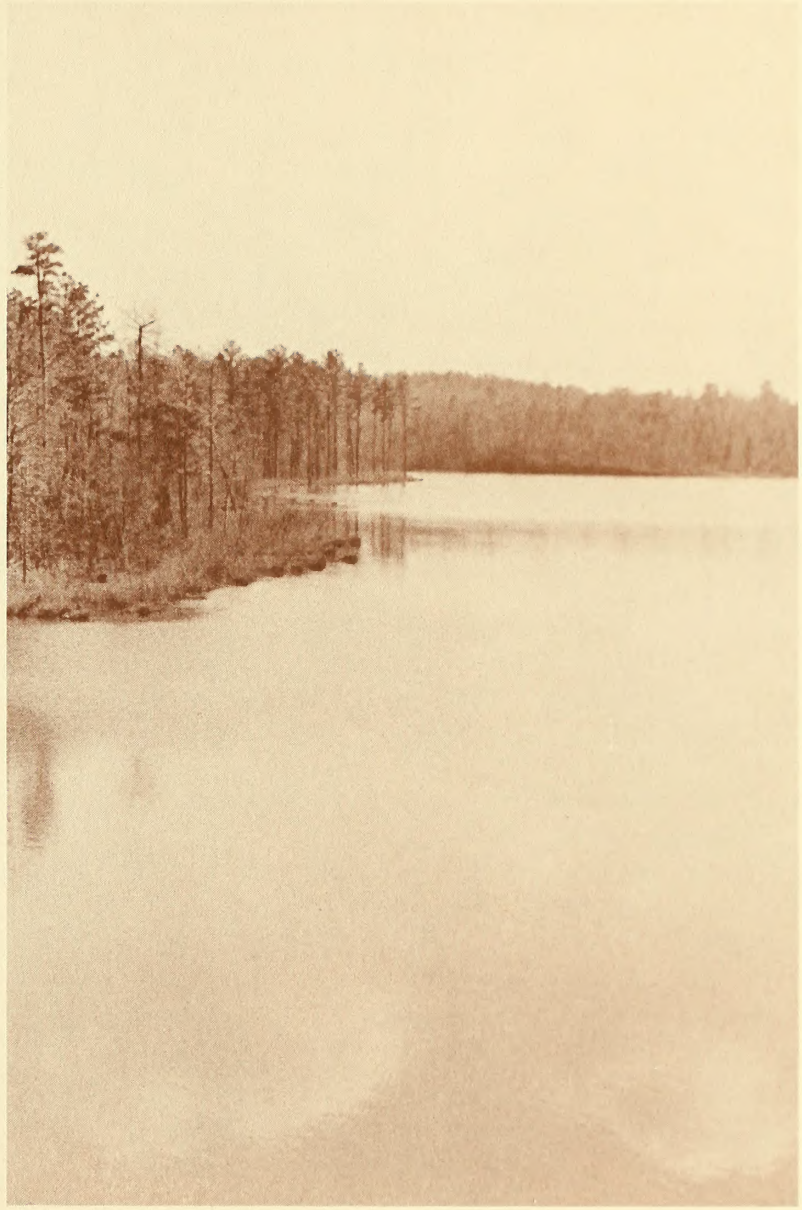
Watershed	Population	Desired Acres	Existing Acres	Deficit	Excess	School Acreage
1. Upper Crabtree Creek 2. Coles Branch	2,142	21.4	20*(3)	1.4		
3. Crabtree Creek Trib.-6	234	2.3	0	2.3		
4. Black Creek	1,345	13.5	7.88*(2)	5.62		61.8
5. Reedy Creek	2,202	22	0	22		
6. Johnson Creek	6,759	67.6	7.4	60.2		59.0
7. Swift Creek Trib.-5 8. Swift Creek Trib.-6	4,392	43.9	18*(1)	25.9		39.1
9. Swift Creek	43	.4	0	.4		
10. Swift Creek Trib.-7	7,910	79.1	19.21	59.9		33.1
11. Upper Swift Creek	54	.5	0	.5		
12. Swift Creek Trib.-4	61	.6	0	.6		
	25,142	251.4	72.49	178.91	0	193.0

*The figures on Existing Park Acreage are based on the assumption that the 1978 Bond helped cover 3 new projects:

1. McDonald Woods Neighborhood Park — 18 acres
2. Northwoods Neighborhood Park — 5.5 acres
3. Lake #3 Community Park Phase I — 20 acres

The analysis shows that again our main problem is in the lack of developed parkland — we now have 20% of what is needed in terms of park acreage. We are just beginning to reach the population to support a metro or city-wide park. With development beginning at Lake #3 in West Cary, we are beginning our first community park but there is still a need for more. Our main progress has been in the area of neighborhood parks — we still remain one or two parks behind but we come closer to meeting this standard than any other park type. The mini-park figure is high but these facilities are only to be used when a neighborhood is fully developed and we can only find one or two acre sites for recreation land; this will typically occur in the older parts of Cary.

In terms of special facilities we definitely need more ball fields, a swimming pool and a large community center with a gym. These are needs we have to meet very soon.



USE OF STANDARDS AND PROJECTIONS — 1988

Cary's population is rapidly growing by this time because of the additions of the Crabtree Outfall line in West Cary and development on the South Side of the beltline. All of this area has been opened for development and as a result our population has increased considerably.

1988 Population	39,000
10 ac/1000 Population Desired	390 ac.
Present Recreation Acreage (1983)	72½ ac.
Present Deficit	317½ ac.

(This deficit is based on no further recreation development after 1983)

Breaking this need down into park types and facilities:

Metro Park	156 ac.
Community Parks	98 ac. (less 20 ac. exist.)=78 ac.
Neighborhood Parks	98 ac. (less 45 ac. exist.)=53 ac.
Mini-Parks	39 ac. (less 7 ac. exist.)=32 ac.

. . . and into the number of parks:

Type	Min. Size	Deficit
Metro	100-200 ac.	1 park
Community	40-75 ac.	2 park
Neighborhood	7-15 ac.	4-6 parks
Mini-parks	less than 2 ac.	15 parks

Special Facilities	Need	1983 Existing	Deficit
Tennis Courts	39	17	22
Swimming Pools (50m.)	2	0	2
Neighborhood Centers	4	2	2
Community Centers	2	0	2
Water Sports	30 ac.	20 ac.	10 ac.
Outdoor Theatres	2 ac.	0	2 ac.
Golf Courses	1	0	1
Baseball Diamonds (Regulation)	6	0	6
Softball Diamonds	13	3	10

1988

Watershed	Popu-lation	Desired Acres	Existing Acres	Deficit	Excess	School Acreage
1. Upper Crabtree Creek 2. Coles Branch	5,910	59.1	20	39.1		
3. Crabtree Creek Trib. -6	1,060	10.6	0	10.6		
4. Black Creek	4,728	47.28	7.88	39.4		61.8
5. Reedy Creek	4,624	46.24	0	46.2		
6. Johnson Creek	7,515	75.15	7.4	67.75		59.0
7. Swift Creek Trib. -5 8. Swift Creek Trib. -6	5,815	58.15	18.0	40.15		39.1
9. Swift Creek	48	.48	0	.48		
10. Swift Creek Trib. -7	8.654	86.54	19.21	67.3		33.1
11. Upper Swift Creek	562	5.62	0	5.62		
12. Swift Creek Trib. -4	84	.84	0	.24		
	39,000	390.0	72.49	317.44	0	193.0

NOTE: There will be additional school acreage and private facilities which should be considered during updates.

The analysis shows that during this five year period we need to continue acquiring and developing parkland. At this point if we stopped the development of recreational facilities we would have only 18% of what we would need just to be even with the standards.

USE OF STANDARDS AND PROJECTIONS — 1993

1993 Population	55,000
10 ac/1000 Population Desired	550 ac.
Present Recreation acreage (1983)	72½ ac.
Present Deficit	477½ ac.

(This deficit is based on no further recreation development after 1983)

Again, breaking this need down into park types and facilities:

Type	Min. Size	Deficit
Metro	100-200 ac.	1 park
Community	40-75 ac.	3 parks
Neighborhood	7-15 ac.	9 parks
Mini-Parks	less than 2 ac.	15 parks

Special Facilities	1983 Need	Existing	Deficit
Tennis Courts	55	17	38
Swimming Pools (50m.)	3	0	3
Neighborhood Centers	5	2	3
Community Centers	3	0	3
Water Sports	45 ac.	20 ac.	25 ac.
Outdoor Theatres	2 ac.	0 ac.	2 ac.
Golf Courses	2	0	2
Baseball Diamonds (Regulation)	9	0	9
Softball Diamonds	18	3	15

1993

Watershed	Population	Desired Acres	Existing Acres	Deficit	Excess	School Acreage
1. Upper Crabtree Creek 2. Coles Branch	10,995	109.95	20	89.95		
3. Crabtree Creek Trib.-6	2,020	20.2	0	20.2		
4. Black Creek	8,580	85.8	7.88	77.9		61.8
5. Reedy Creek	7,410	74.1	0	74.1		
6. Johnson Creek	8,018	80.18	7.4	72.8		59.0
7. Swift Creek Trib. -5 8. Swift Creek Trib. -6	7,131	71.31	18.0	53.3		39.1
9. Swift Creek	65	.65	0	.65		
10. Swift Creek Trib.-7	9,451	94.51	19.21	75.3		33.1
11. Upper Swift Creek	1,350	13.5	0	13.5		
12. Swift Creek Trib.-4	130	1.3	0	1.3		
	55,150	551.5	72.49	479	0	193.0

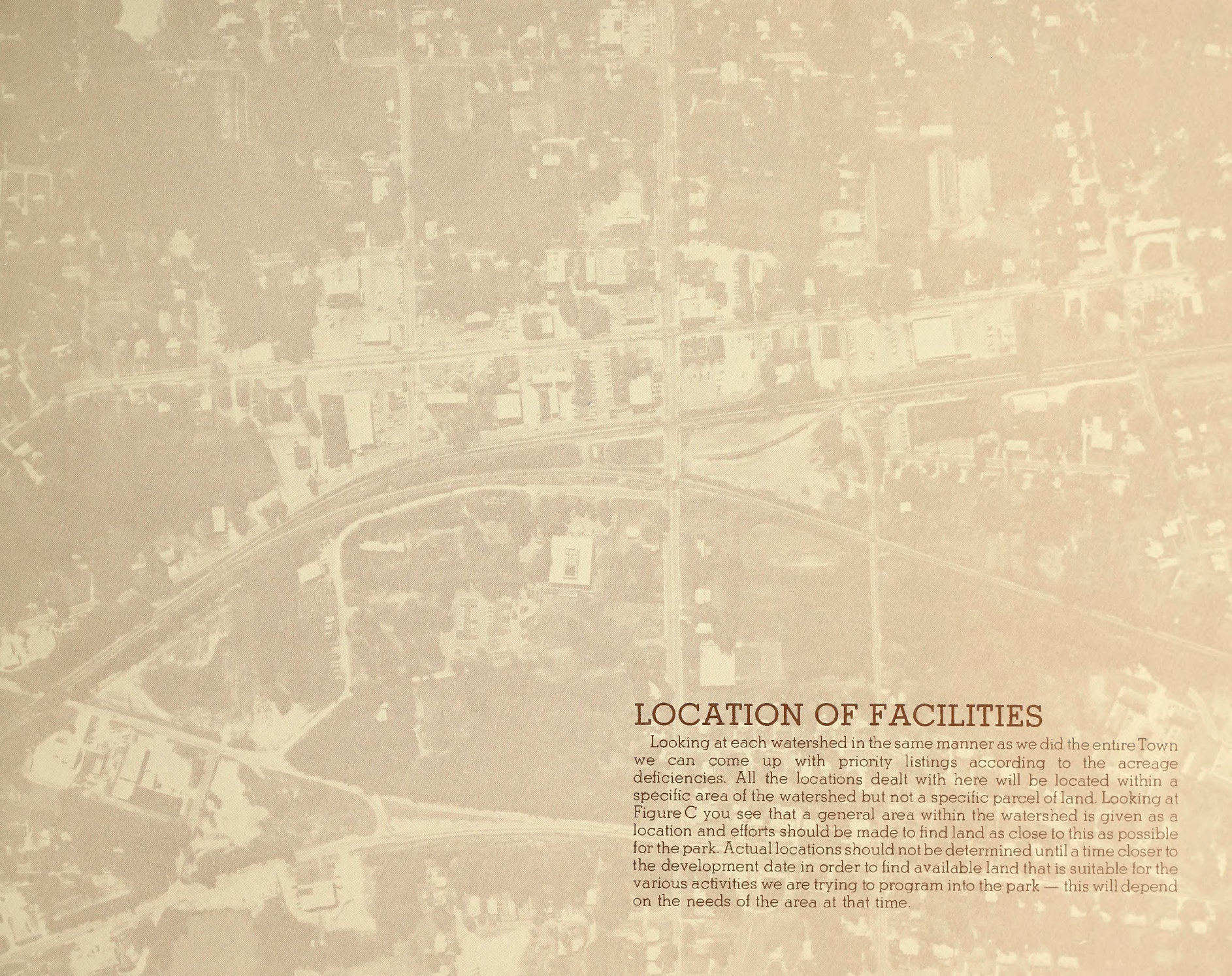
NOTE: There will be additional school acreage and private facilities which should be considered during updates.

Conclusion

Between now and 1998 we need to acquire and develop one city wide metro park of approximately 200 acres; three community parks of approximately 40 acres each; nine neighborhood parks approximately 10 acres each; and fifteen mini-parks, each less than two acres in size.

In terms of special facilities, we need 38 additional tennis courts, three swimming pools, three neighborhood centers, three community centers, at least one golf course, and two dozen ballfields.

With the periodic update of the plan, these figures will be increased or decreased depending on current figures and current user information at the time of the updates. This will also be affected by the development of private facilities by homeowner groups, subdivisions, etc. — especially in the areas of tennis courts and swimming pools.



LOCATION OF FACILITIES

Looking at each watershed in the same manner as we did the entire Town we can come up with priority listings according to the acreage deficiencies. All the locations dealt with here will be located within a specific area of the watershed but not a specific parcel of land. Looking at Figure C you see that a general area within the watershed is given as a location and efforts should be made to find land as close to this as possible for the park. Actual locations should not be determined until a time closer to the development date in order to find available land that is suitable for the various activities we are trying to program into the park — this will depend on the needs of the area at that time.

PARKS
DEVELOPMENT
1978-1988

PARKS
DEVELOPMENT
1988-1998

PARKS DEVELOPMENT 1978-1988

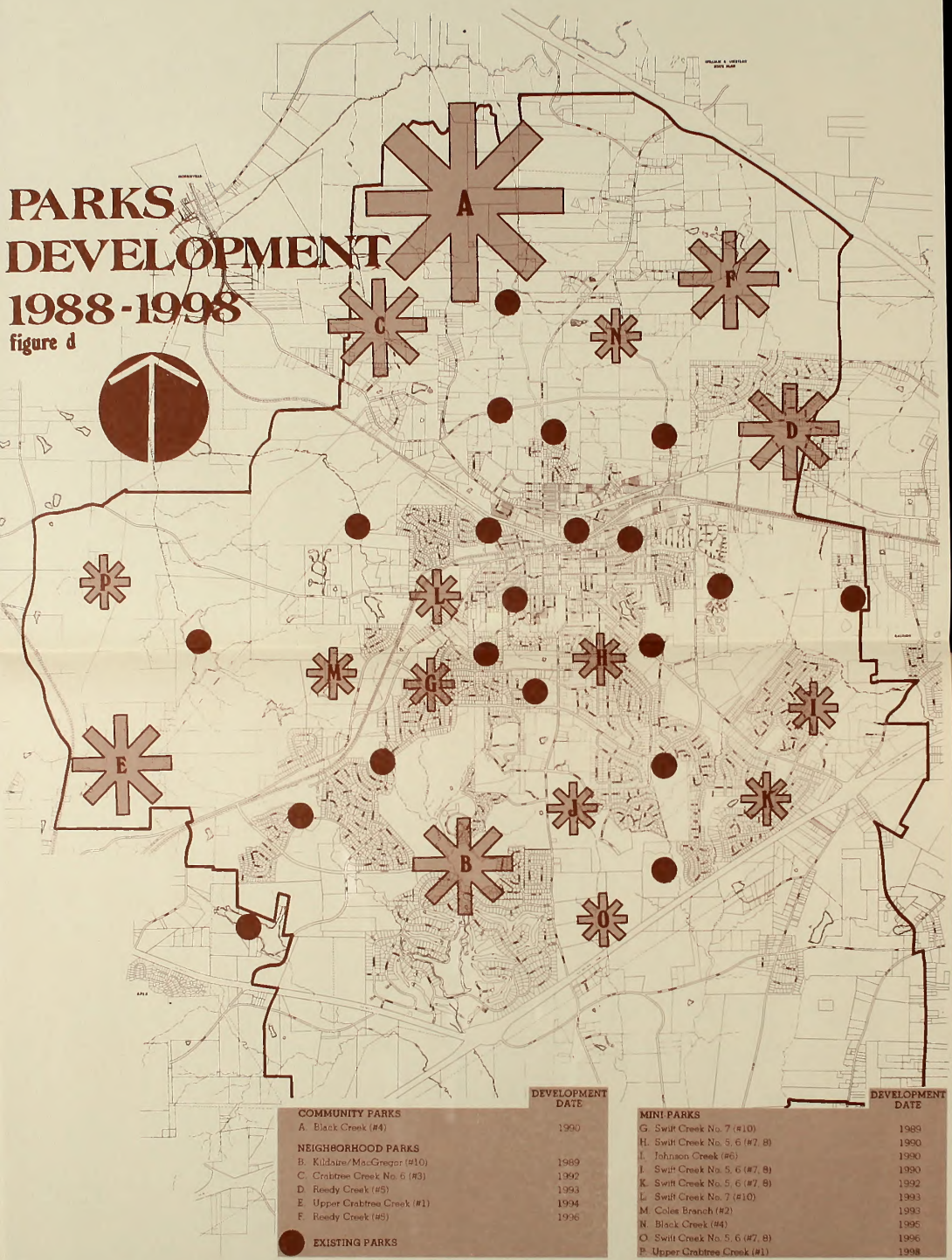
figure c

	DEVELOPMENT DATE
COMMUNITY PARKS	
A. Upper Crabtree Creek (#1)	1982
B. Johnson Creek (#6)	1988
NEIGHBORHOOD PARKS	
C. Northwoods Park (#4)	1980
D. McDonald Woods Park (#7, 8)	1981
E. Reedy Creek (#5)	1981
F. Swift Creek No. 7 (#10)	1983
G. Black Creek (#4)	1984

	DEVELOPMENT DATE
H. Coles Branch (#2)	1988
MINI PARKS	
I. Lane Field (#2)	1979
J. Heater Park (#10)	1981
K. Dorothy Park (#10)	1982
L. Black Creek (#4)	1983
M. Johnson Creek (#6)	1985
N. Swift Creek No. 5, 6 (#7, 8)	1985
O. Swift Creek No. 7 (#10)	1987

PARKS DEVELOPMENT 1988-1998

figure d



COMMUNITY PARKS	DEVELOPMENT DATE
A. Black Creek (#4)	1990
NEIGHBORHOOD PARKS	
B. Kildaire/MacGregor (#10)	1989
C. Crabtree Creek No. 6 (#3)	1992
D. Reedy Creek (#5)	1993
E. Upper Crabtree Creek (#1)	1994
F. Reedy Creek (#5)	1996
EXISTING PARKS	

MINI PARKS	DEVELOPMENT DATE
G. Swift Creek No. 7 (#10)	1989
H. Swift Creek No. 5, 6 (#7, 8)	1990
I. Johnson Creek (#6)	1990
J. Swift Creek No. 5, 6 (#7, 8)	1990
K. Swift Creek No. 5, 6 (#7, 8)	1992
L. Swift Creek No. 7 (#10)	1993
M. Coles Branch (#2)	1993
N. Black Creek (#4)	1995
O. Swift Creek No. 5, 6 (#7, 8)	1996
P. Upper Crabtree Creek (#1)	1998

PARKS NEEDED

If we plug these acreage deficiencies into our park definitions and our priority listings, we now have an overall list of what kind of parks we need and where we need them.

METRO PARK

4 acres/1000 population

220 acres desired
0 acres existing
220 acres deficit

Size: 100-200-acres

Facilities proposed:
Golf Course — 200-250 acres

COMMUNITY PARKS

2.5 acres/1000 population

137.5 acres desired
20 acres existing
117.5 acres deficit

Size: 40-75 acres

Facilities proposed:
Three new parks with size of at least 40 acres

Recommended areas:
a. Upper Crabtree Creek watershed (20 acres already developed)
b. Johnson Creek watershed
c. Black Creek watershed

NEIGHBORHOOD PARKS

2.5 acres/1000 population

137.5 acres desired
48.0 acres existing
89.5 acre deficit

Size: 7-15 acres

Facilities proposed:
6-12 new parks

Recommended areas:

a. Reedy Creek watershed	3 parks
b. Swift Creek Trib. -7 watershed	2 parks
c. Swift Creek Trib.. -5, 6 watershed	
d. Coles Branch Watershed	
e. Crabtree Creek Trib. -6 watershed	
f. Black Creek Watershed	
g. Johnson Creek Watershed	

MINI-PARKS

1 acre/1000 population

55.0 acres desired
6.8 acres existing
48.2 acre deficit

Size: less than or equal to two acres
This park will generally be used in areas where development prohibits larger parks — the older parts of Town.

PARKS
DEVELOPMENT
1978-1998

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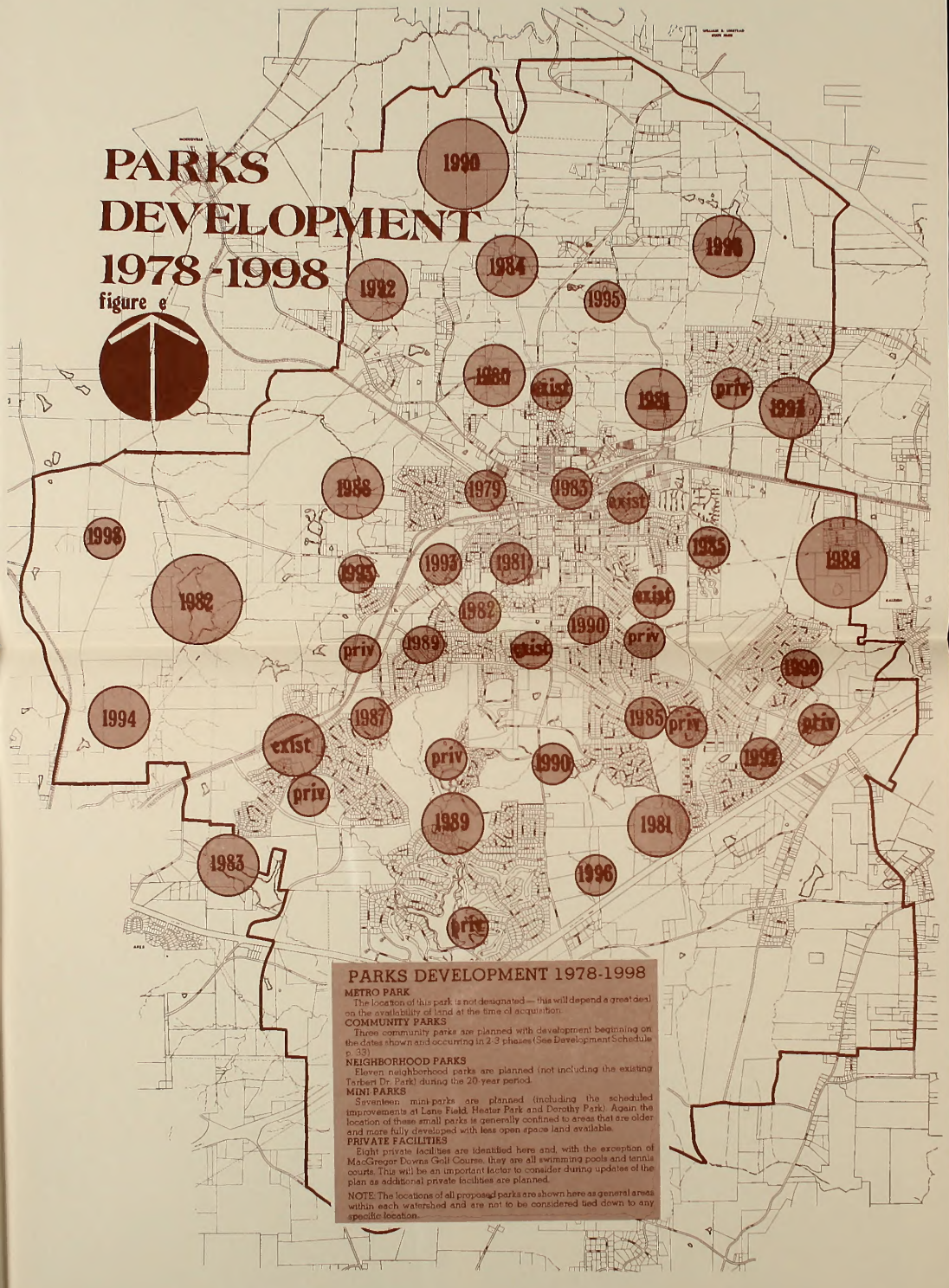


PARKS DEVELOPMENT 1978-1998

METRO PARK

The location of this park is not designated—this will depend a great deal on the availability of land at the time of acquisition.

COMMUNITY PARKS

Three community parks are planned with development beginning on the dates shown and occurring in 2-3 phases (See Development Schedule p. 39).

NEIGHBORHOOD PARKS

Eleven neighborhood parks are planned (not including the existing Tarbert Dr. Park) during the 20-year period.

MINI-PARKS

Seventeen mini-parks are planned (including the scheduled improvements at Lane Field, Hester Park and Dorothy Park). Again the location of these small parks is generally confined to areas that are older and more fully developed with less open space land available.

PRIVATE FACILITIES

Eight private facilities are identified here and, with the exception of MacGregor Downs Golf Course, they are all swimming pools and tennis courts. This will be an important factor to consider during updates of the plan as additional private facilities are planned.

NOTE: The locations of all proposed parks are shown here as general areas within each watershed and are not to be considered tied down to any specific location.

COSTS

Just what is this package of recreational facilities going to cost?

First of all we can divide these costs into two areas — acquisition costs and development costs.

ACQUISITION

Even though most of our present park land has come from our Recreation Open Space Ordinance (See Appendix) we will have to begin an acquisition program to make the significant progress needed in the coming years. This will take much outright purchase but there are various other means of acquisition (See Appendix).

ACQUISITION COSTS

Metro — 1 park at 200 acres

200 acres	$3,000/acre	$600,000.00

Community Parks — 3 parks at 40 acres each

120 acres	20 acres using bond money	
1980-85	40 acres at 3,500/acre	140,000.00
1986-1990	60 acres at 4,000/acre	240,000.00
		$380.000.00

Neighborhood Parks — 9 parks at 11 acres each

99 acres	44 acres by dedication	
1980-85	22 acres at 3,500/acre	77,000.00
1985-	33 acres at 4,000/acre	132,000.00
		$209,000.00

Mini-Parks — 14 parks at 1 acre each

14 acres	2 acres by dedication	
1980-85	3 acres at 4,000/acre	12,000.00
1985-90	7 acres at 5,000/acre	35,000.00
1990-	2 acres at 5,500/acre	11,000.00
		$58,000.00

ACQUISITION TOTAL $1,247,000.00

NOTE: These costs reflect current prices and take into account inflation during the time period we're dealing with.

DEVELOPMENT

Now we can look at the costs to develop each park and special facility. These costs are based on the costs to develop similar parks today and add-on inflationary figures.

Development	Cost Per Facility	Total Cost
1 Metro Park	$1,000,000	$1,000,000.00
3 Community Parks	1 at $500,000; 2 at $600,000	1,700,000.00
9 Neighborhood Parks	4 at $300,000; 5 at $400,000	3,200,000.00
14 Mini-Parks	8 at $50,000; 6 at $75,000	850,000.00
		$6,750,000.00
3 Neighborhood Centers	$300,000/Center	900,000.00
3 Community Centers	$600,000/Center	1,800,000.00
3 50 M. Swimming Pools	1 at $500,000; 2 at $750,000	2,000,000.00
		$4,700,000.00
	Development Total	$11,450,000.00

The total costs of acquisition and development over the next twenty years will be approximately 12¾ million dollars. We can make the assumption that one-third of that total will be funded by various federal, state, and county grants. Therefore, for the 1978-1998 time period our total recreational costs would be approximately 8 million dollars.

Total:	$12,697,000.00
Assumption: One-third will come from grants:	$4,232,333.00
Total money needed:	$8,464,667.00

The schedule of when this acquisition and development occurs follows the priority listings from the five-year listings and therefore the recreation needs of each watershed.

Acquisition generally occurs every three years beginning in 1980. The actual parcels acquired again will depend on what is available at the time along with what is needed in that particular area. These acquisitions should correspond as closely as possible to the locations designated.

The following is the schedule for acquisition and how much this acquisition would cost.

YEAR BY YEAR ACQUISITION

1980 Acquisition

Development Date	Park Type and Location	Size	Cost
	1. Johnson Creek Community Park Acquisition Phase I (#6)	20 ac.	$70,000
1981	2. Reedy Creek Neighborhood Park (#5)	11 ac.	38,500
	Total	31 ac.	$108,500

1983 Acquisition

	1. Complete Upper Crabtree Creek Community Park Acquisition (#1)	20 ac.	70,000
1985	2. Swift Creek Trib. No. 5, 6 Mini-Park 1 (#7, 8)	1 ac.	4,000
1985	3. Johnson Creek Mini-Park I (#6)	1 ac.	4,000
1983	4. Black Creek Mini-Park I (#4)	1 ac.	4,000
1983	5. Upper Swift Creek Neighborhood Park (#11)	11 ac.	38,500
	Total	34 ac.	$120,500

1986 Acquisition

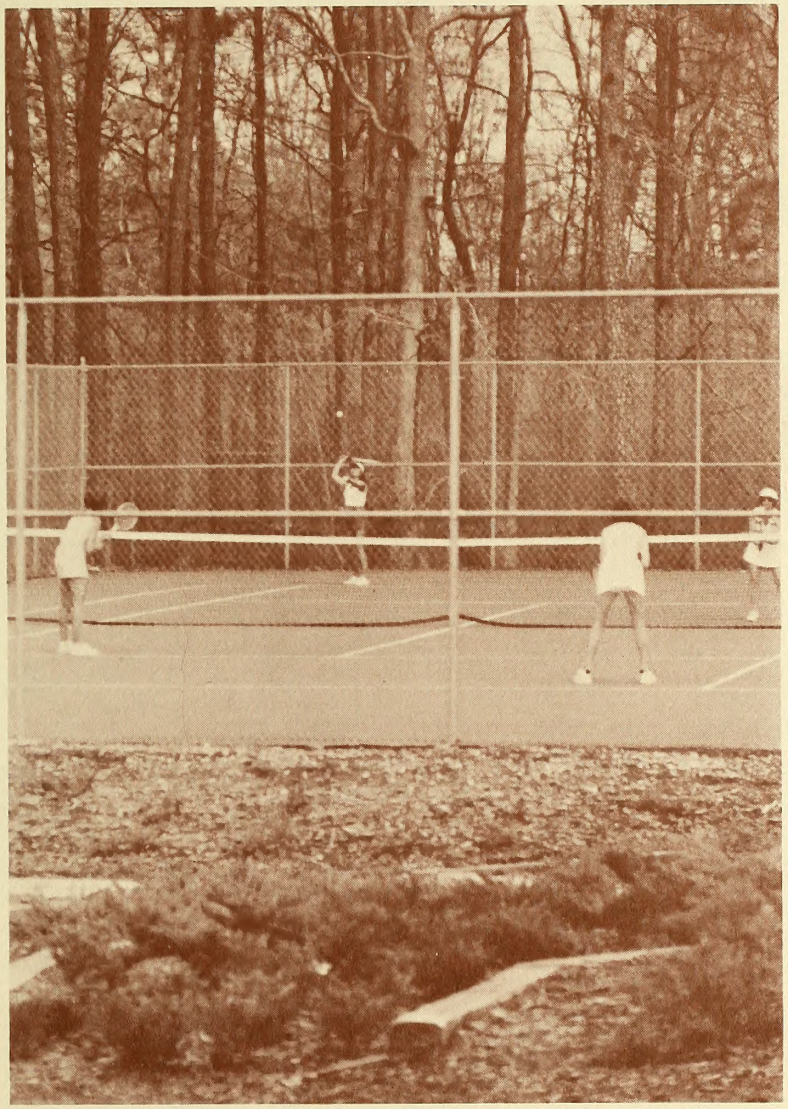
	1. Begin Black Creek Community Park Acquisition (#4)	20 ac.	80,000
1989	2. Kildaire/MacGregor Neighborhood Park (#10)	11 ac.	44,000
1990	3. Swift Creek Trib. No. 5, 6 Mini-Park II (#7, 8)	1 ac.	5,000
1990	4. Swift Creek Trib. No. 5, 6 Mini-Park II (#7, 8)	1 ac.	5,000
1987	5. Swift Creek Trib. No. 7 Mini-Park I (#10)	1 ac.	5,000
	Total	34 ac.	$139,000

1989 Acquisition

	1. Complete Johnson Creek Community Park Acq. (#6)	20 ac.	$80,000
	2. Complete Black Creek Community Park Acquisition (#4)	20 ac.	80,000
1993	3. Reedy Creek Neighborhood Park II (#5)	11 ac.	44,000
1992	4. Crabtree Creek Trib. No. 6 Neighborhood Park (#3)	11 ac.	44,000
1992	5. Swift Creek Trib. No. 5, 6 Mini-Park IV (#7, 8)	1 ac.	5,000
1990	6. Johnson Creek Mini-Park II (#6)	1 ac.	5,000
1993	7. Coles Branch Mini-Park I (#2)	1 ac.	5,000
1993	8. Swift Creek Trib. No. 7 Mini-Park II (#10)	1 ac.	5,000
	Total	66 ac.	$268,000

1993 Acquisition

	1. Metro Park Acquisition	200 ac.	600,000
1998	2. Upper Crabtree Creek Mini-Park (#1)	1 ac.	5,500
1995	3. Black Creek Mini-Park II (#4)	1 ac.	5,500
	Total	202 ac.	$611,000
	Total		$1,247,000



YEAR BY YEAR DEVELOPMENT

At this point we begin to form a framework for development of recreational facilities. By certain years, we will have land that is now Town-owned and is ready for development. Again this follows the priorities set up by the population projections and needs assessments.

The year by year development and costs are as follows:

1981 Development	Date Purchased	Total Cost
1. Reedy Creek Neighborhood Park (#5)	1980	$300,000
1982		
1. Begin Upper Crabtree Creek Community Park (#1)	1980	250,000
1983		
1. Upper Swift Creek Neighborhood Park (#11)	1983	300,000
2. Black Creek Mini-Park (#4)	1983	50,000
1984		
1. Black Creek Neighborhood Park (#4)	Dedicated	300,000
1985		
1. Swift Creek No. 5, 6 Mini-Park (#7, 8)	1983	50,000
2. Johnson Creek Mini-Park (#6)	1983	50,000
3. Community Center (#1)		600,000
1986		
1. Swimming Pool		500,000
1987		
1. Complete Upper Crabtree Creek Community Park (#1)	1983	250,000
2. Swift Creek No. 7 Mini-Park (#10)	1986	50,000
1988		
1. Coles Branch Neighborhood Park (#2)	Dedicated	300,000
2. Begin Johnson Creek Community Park Phase I (#6)	1986	200,000

1989		
1. Kildaire/MacGregor Neighborhood Park (#10)	1986	400,000
2. Swift Creek No. 7 Mini-Park (#10)	Dedicated	50,000
3. Neighborhood Center (#10)		300,000
1990		
1. 2 Swift Creek No. 5, 6 Mini-Parks (#7, 8)	1986	100,000
2. Johnson Creek Mini-Park (#6)	1989	50,000
3. Begin Black Creek Community Park Phase I (#4)	1989	200,000
1991		
1. Johnson Creek Community Park Phase II (#6)	1986	200,000
2. Community Center (#6)		600,000
1992		
1. Crabtree Creek No. 6 Neighborhood Park (#3)	1989	400,000
2. Swift Creek No. 5, 6 Mini-Park (#7)	1989	750,000
3. Neighborhood Center (#7)		300,000
1993		
1. Reedy Creek Neighborhood Park (#5)	1989	400,000
2. Swift Creek No. 7 Mini-Park (#10)	1989	750,000
3. Coles Branch Mini-Park (#2)	1989	750,000
4. Begin Black Creek Community Park Phase II (#4)	1989	200,000
1994		
1. Upper Crabtree Creek Neighborhood Park (#1)	Dedicated	400,000
2. Neighborhood Center (#5)		300,000
3. Swimming Pool		750,000
1995		
1. Black Creek Mini-Park (#4)	1993	75,000
1996		
1. Reedy Creek Neighborhood Park (#5)	Dedicated	400,000
2. Swift Creek No. 5, 6 Mini-Park (#7, 8)	Dedicated	75,000
3. Community Center (#4)		600,000
1997		
1. Complete Johnson Creek Community Park Phase III (#6)		200,000
2. Swimming Pool		750,000
1998		
1. Complete Black Creek Community Park Phase III (#4)		200,000
2. Upper Crabtree Creek Mini-Park (#1)	1993	75,000
1999		
1. Metro Golf Course		1,000,000

The total costs for the acquisition and development of park land for the coming twenty years are shown below. Considering a 1999 population of 70,000 this total of $12,697,000 breaks down to $181.35 per person. If you include the assumption that one-third of the costs will be provided by grants this figure is reduced to $120.91 per person over a twenty year period.

YEAR BY YEAR TOTAL COSTS

YEAR	ACQUISITION COSTS	DEVELOPMENT COSTS	TOTAL
1980	108,500		108,500
1981		300,000	300,000
1982		250,000	250,000
1983	120,500	350,000	470,500
1984		300,000	300,000
1985		700,000	700,000
1986	139,000	500,000	639,000
1987		300,000	300,000
1988		500,000	500,000
1989	268,000	750,000	1,018,000
1990		350,000	350,000
1991		800,000	800,000
1992		775,000	775,000
1993	611,000	750,000	1,361,000
1994		1,450,000	1,450,000
1995		75,000	75,000
1996		1,075,000	1,075,000
1997		950,000	950,000
1998		275,000	275,000
1999		1,000,000	1,000,000
	$1,247,000	$11,450,000	$12,697,000

FUNDING

At this point we have to consider the sources of monies to pay for this program. We have already made the assumption that grants will play a part in the implementation of our recreation system. At some point in the near future we will have to start to implement fees and charges for certain facilities, non-residents, etc. But we need a continuous source of money to fund these projects and the primary decision seems to be between promoting bond referendums to cover the costs and including a reasonable recreation tax in the taxation of the Townspeople.

In the past Cary has received most recreation development money from bonds. In 1973, the Town had a $250,000 recreation bond and in 1978, a $500,000 bond was approved for recreation. Figure G shows what the costs would be to raise enough money to meet our needs that we just determined--approximately $8,000,000. To get $8,000,000 in bonds, it will cost an average of 15 cents per year per $100 property evaluation per taxpayer.

In looking at Figure F , with the implementation of a five cent recreation tax at approximately the same amount of money it will cost an average of 7.5 cents per year per $100 property evaluation per taxpayer! Bonds cost about twice as much since we are borrowing money and paying almost as much in interest as in our principal payments.

The advantage of bonds is that we have that big initial sum of money to spend while it takes a few years of accumulation through a tax to have money we can work with.

Our recommendation because of the total savings to the taxpayers is a recreation tax of 5 cents. An option in addition to this tax is to fund the major expenditures of the special facilities ($600,000 for community centers, $500,000 for swimming pools, $300,000 for neighborhood centers) through special bonds or capital improvement monies.

Besides the savings to the taxpayers, this constant income of recreation money enables us to plan for the future and to provide for the needs of the Townspeople. Without a continuing source of income we will be planning in a piece-meal fashion, never being able to meet the needs already determined. Realistically, Cary is becoming a metropolitan area (as evidenced by the fact that we are now among the twenty-five most populous cities in North Carolina), and we have an obligation to provide these services.

FIGURE F

RECREATION TAX

YEAR	APPROXIMATE TAX BASE	'73 BOND	'78 BOND	TAX	COST PER TAXPAYER PER $100 VALUATION PER YEAR	APPROXIMATE TAX REVENUES
1980	309,096,000	1¢	2¢	5¢	8¢	$154,548
1981	333,823,680	1¢	2¢	5¢	8¢	166,911
1982	360,529,574	1¢	2¢	5¢	8¢	180,263
1983	389,371,940	1¢	2¢	5¢	8¢	194,685
1984	420,521,695	1¢	2¢	5¢	8¢	210,260
1985	454,163,430	1¢	2¢	5¢	8¢	227,080
1986	499,579,773	1¢	2¢	5¢	8¢	247,788
1987	549,537,750	1¢	2¢	5¢	8¢	274,766
1988	604,491,525	1¢	2¢	5¢	8¢	302,242
1989	664,940,677	1¢	2¢	5¢	8¢	332,466
1990	731,434,744	1¢	2¢	5¢	8¢	365,712
1991	804,578,219	1¢	2¢	5¢	8¢	402,283
1992	885,036,041	1¢	2¢	5¢	8¢	442,511
1993	973,539,645		2¢	5¢	7¢	486,762
1994	1,070,893,610		2¢	5¢	7¢	535,438
1995	1,177,982,971		2¢	5¢	7¢	588,982
1996	1,295,781,268		2¢	5¢	7¢	647,880
1997	1,425,359,395		2¢	5¢	7¢	712,668
1998	1,567,895,335			5¢	5¢	783,935
1999	1,724,684,869			5¢	5¢	862,328
				Total	$1.49 Per Taxpayer Per $100 Valuation Over The 20 Yr. Period Or 7.5¢ Per Year Average For $8,119,508 in Tax Revenues	$8,119,508

NOTE: This is based on an 8% increase in the tax base through 1984 and a 10% increase after 1985.

1976 Tax Base: $225,969,358

1977 Tax Base: $247,262,000

1978 Tax Base (Est.): $265,000,000

FIGURE G

RECREATION BONDS

YEAR	COST PER TAXPAYER PER $100 VALUATION PER YEAR	'73 BOND ($250,000)	'78 BOND ($500,000)	'83 BOND ($1,500,000)	'88 BOND ($1,500,000)	'93 BOND ($2,000,000)	'98 BOND ($2,250,000)
1980	3¢	1¢	2¢				
1981	3¢	1¢	2¢				
1982	3¢	1¢	2¢				
1983	9¢	1¢	2¢	6¢			
1984	9¢	1¢	2¢	6¢			
1985	9¢	1¢	2¢	6¢			
1986	9¢	1¢	2¢	6¢			
1987	9¢	1¢	2¢	6¢			
1988	15¢	1¢	2¢	6¢	6¢		
1989	15¢	1¢	2¢	6¢	6¢		
1990	15¢	1¢	2¢	6¢	6¢		
1991	15¢	1¢	2¢	6¢	6¢		
1992	15¢	1¢	2¢	6¢	6¢		
1993	22¢		2¢	6¢	6¢	8¢	
1994	22¢		2¢	6¢	6¢	8¢	
1995	22¢		2¢	6¢	6¢	8¢	
1996	22¢		2¢	6¢	6¢	8¢	
1997	22¢		2¢	6¢	6¢	8¢	
1998	29¢			6¢	6¢	8¢	9¢
1999	29¢			6¢	6¢	8¢	9¢
Total	$2.97	Per Taxpayer Per $100 Valuation Over The 20 Yr. Period					

Or 15¢ Per Year Average For $8,000,000 In Bonds.

NOTE: This is based on an 8% increase in the tax base per year through 1984, a 10% increase after 1985 and an 8% increase in inflation per year.

GREENWAYS

GREENWAYS

The concepts of garden cities and "parks with cities in them" have been around a long time but a regeneration of the idea took place with the birth of new towns — Greenbelt, Maryland; Radburn, New Jersey; Greendale, Wisconsin; Columbia, Maryland; and Reston, Virginia, just to name a few.

There are two fundamental open space concepts in the new town idea:

1. The greenbelt principle — the use of green space (which may also serve multiple open space use) to define and control development.
2. To provide for a maximum of open space for common use which at the same time compensates in open space for compact building development.[23]

Throughout the years and the adapations, the basic premise of open space planning has remained the same: the city dweller should have a place to live rather than merely exist. This was the intent of the Cary Town Council when in 1975, they initiated the implementation of the greenway concept in Cary by forming the Greenway Commission.

The Commission has been working in three areas:

1. The development of an overall masterplan for greenways;
2. The education of the community on the greenway concept; and
3. The development of a prototype greenway.

Community Education

A major priority for the success of Cary's greenway system is in the area of public education and citizen awareness of the greenway concept. Without a broad base of support within the community, a working greenway system will never be realized.

There are four areas of concentration for this greenway education program:

1. **Sight and Sound Presentation** — a greenway slide show has been produced, which presents the greenway concept to the community. In essence, this show presents the definition of a greenway, present greenways in other towns, activities that can occur and advantages of the implementation of a greenway system in Cary.

2. **Educational Materials** — various educational materials are being planned for public distribution. Buttons have been printed and are being distributed for longlasting, continual promotion and brochures and exhibits will be prepared for quick, useful information.

3. **Greenway Walks** — during the seasonable months, the Greenway Commission conducts walks over land that is being considered as potential greenways.

5. **Public Hearings** — at various intervals, citizens can provide information and obtain information on greenways, their location, their use, etc. through public hearings. This will be incorporated into the overall plan for greenways.

Goals and Objectives

Open space has a functional use in itself as a land resource, as a land use for recreation, and as a corridor space for transportation. It also has functional objectives in development while serving these functions in providing for a system of control in building development patterns. In *Capital City Greenway*, a list of objectives is presented showing their relationship with involved governmental functions:[24]

GREENWAY OBJECTIVES ● Directly involved ○ Indirectly involved	INVOLVED GOVERNMENTAL FUNCTIONS	PARKS	RECREATION	PLANNING	SANITARY & STORM SEWERS	TRANSPORTATION
1. Promote the strategic use of flood prone lands for an open-space corridor system.		●	○	●	●	○
2. Establish a linear park network, left primarily in its natural state & to preserve a habitat for wildlife.		●	●	●	●	●
3. Compliment the existing & future park system through the introduction of a linear park network which will accommodate public recreation desires which are now unmet.		●	●	●	○	○
4. Enhance private development by giving a common structural system to the elements of urban amenity & increase values of nearby property.		●	●	●	○	○
5. Introduce a trail system which connects compatible land uses.		●	●	●	○	○
6. Buffer conflicting land uses.		●	○	●	●	○
7. Give alternative to automobile for short commuter trips by developing a safe passageway for bicycles and pedestrians.		●	●	●	○	●
8. Retain natural ecological functions in the urban environment.		●	○	●	●	○
9. Allow more effective planning for future urban growth.		○	○	●	○	○
10. Elevate the livability of the urban environment — improved water quality, air quality & noise quality.		●	●	●	○	○
11. Stimulate the more beneficial expenditure of public funds through multiple use of public property.		●	●	●	○	○

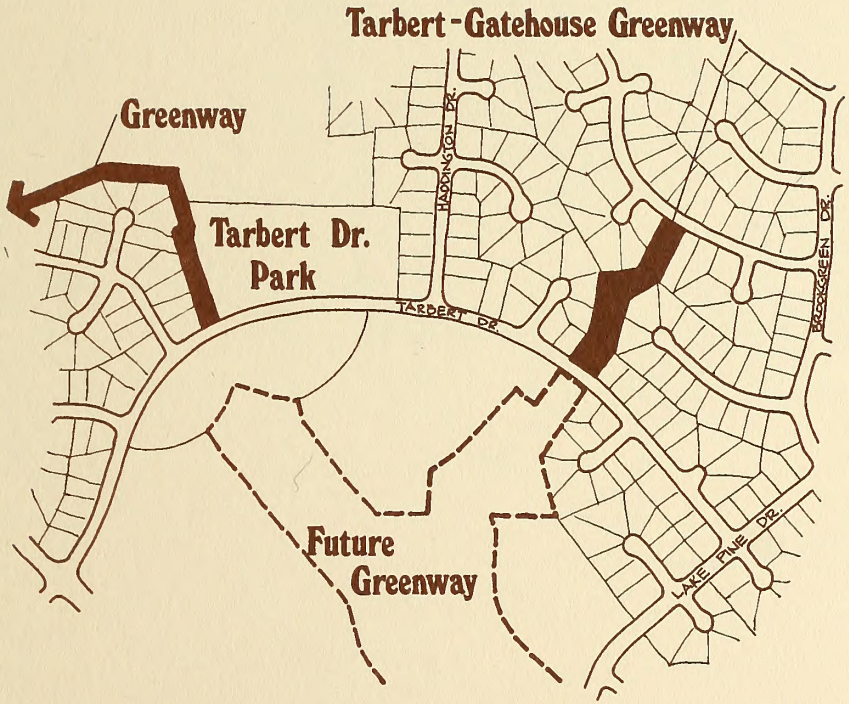


FIGURE H Tarbert Drive area greenways

GREENWAY PLANNING

Existing Greenways

Presently Cary has two greenway links that will be constructed this year — one in connection with Tarbert Drive Park and the other connecting Tarbert Drive and Gatehouse Drive (See Figure H). A link leaving the park and running to the Cary Parkway will be constructed next year. So, by 1980 we will have three sections of greenway land developed.

Planning Process

At this point we can look at the parks plan that's just been developed. Since that was dependent on future populations, area needs and existing facilities, we can basically follow the development schedule of parks with the development of greenways that will link them.

Our list of greenway priorities will begin with the list of possibilities developed by the Town Greenway Commission. This was the first task completed by Commission and it was determined that this list was made up of areas in Cary that had the most pressing need for greenway links in Cary. This list included the following:

1. Tarbert-Gatehouse link thru Tarbert Park to the Cary Parkway.
2. McDonald Woods Park link.
3. Pamlico Drive link to Dorothy Drive Park.
4. Academy Street Town Hall to Cary Elementary School.
5. Urban Park to Walnut Street Tennis Courts (via East Cary Junior High School).
6. Pamlico Drive extension to Heater Park.
7. Cary Elmentary School thru Dunham's property to Dorothy Drive Park.
8. Ivy Meadows-Henry Adams Elementary School link.
9. Gas line easement; Briar Creek to Gregory Drive.
10. Crabtree Creek link to Umstead Park.

By incorporating all of the floodplain land with the park plan, we can develop a more definative list of greenway possibilities. Our greenways will generally be located on this floodplain land since it is less suitable for other development, it is cheaper to purchase, and its continued use as open space helps keep up the maintenance of our natural systems. Also our streams penetrate into all areas of Cary and this allows for a more equitable distribution of greenway corridor throughout the Town.

With all of the Floodplain mapped (See Figure I) we can then add our park possibilities and see what paths we want to follow. Remember one of our main goals is to link the parks, schools, and neighborhoods of the Town by our greenways. So by following the streams from park to park, to schools, to the neighborhoods, we have our greenway locations.

CARY
AREA
FLOODPLAINS

ACQUISITION AND DEVELOPMENT SCHEDULE

The acquisition and development schedule will closely correspond to the development of the parks in Cary. The following schedule (Figure K) incorporates the priorities established by the Greenway Commission and the links connecting the remaining parks and schools and then establishes the order of their development. It also gives the approximate length of each link ranging from one-quarter mile to two miles.

CARY AREA FLOODPLAINS

figure i

ACQUISITION AND DEVELOPMENT SCHEDULE

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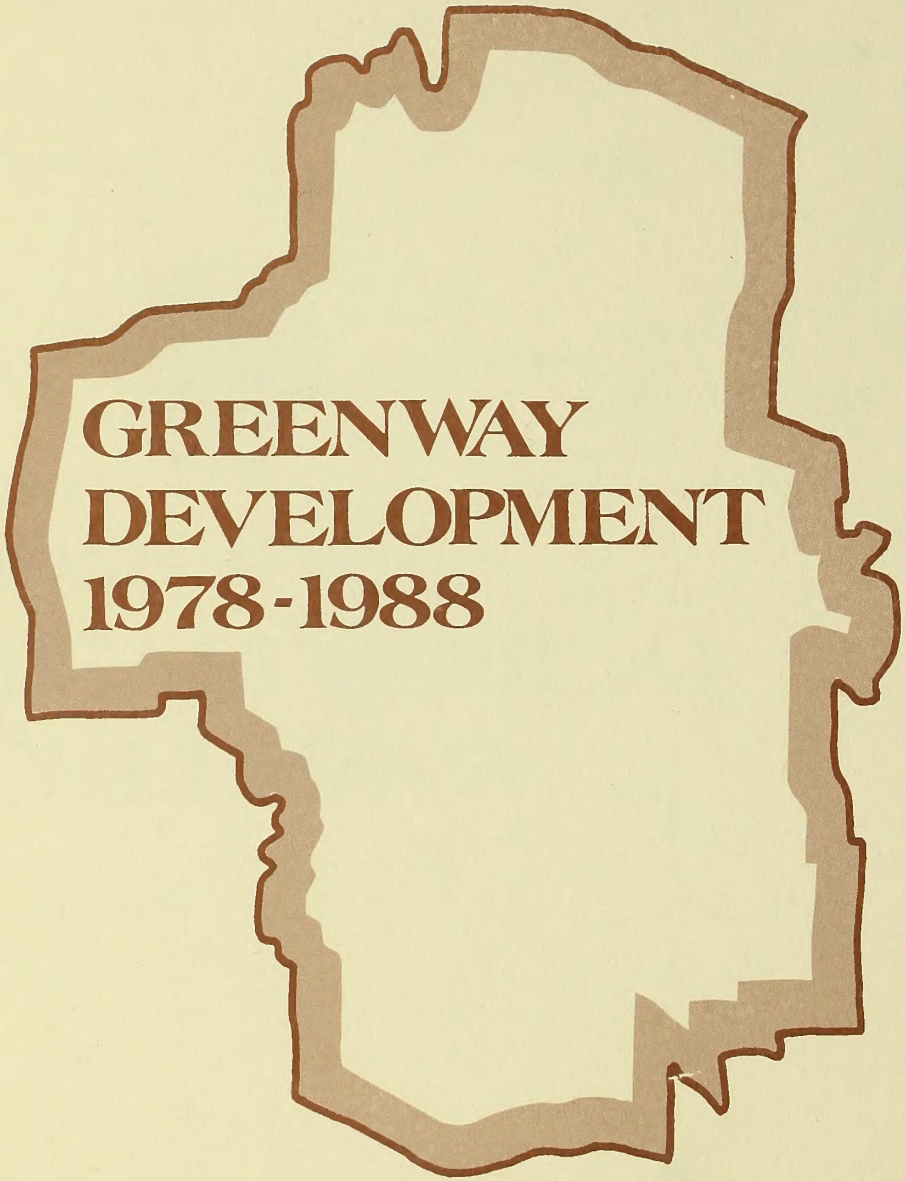

GREENWAY
DEVELOPMENT
1978-1988

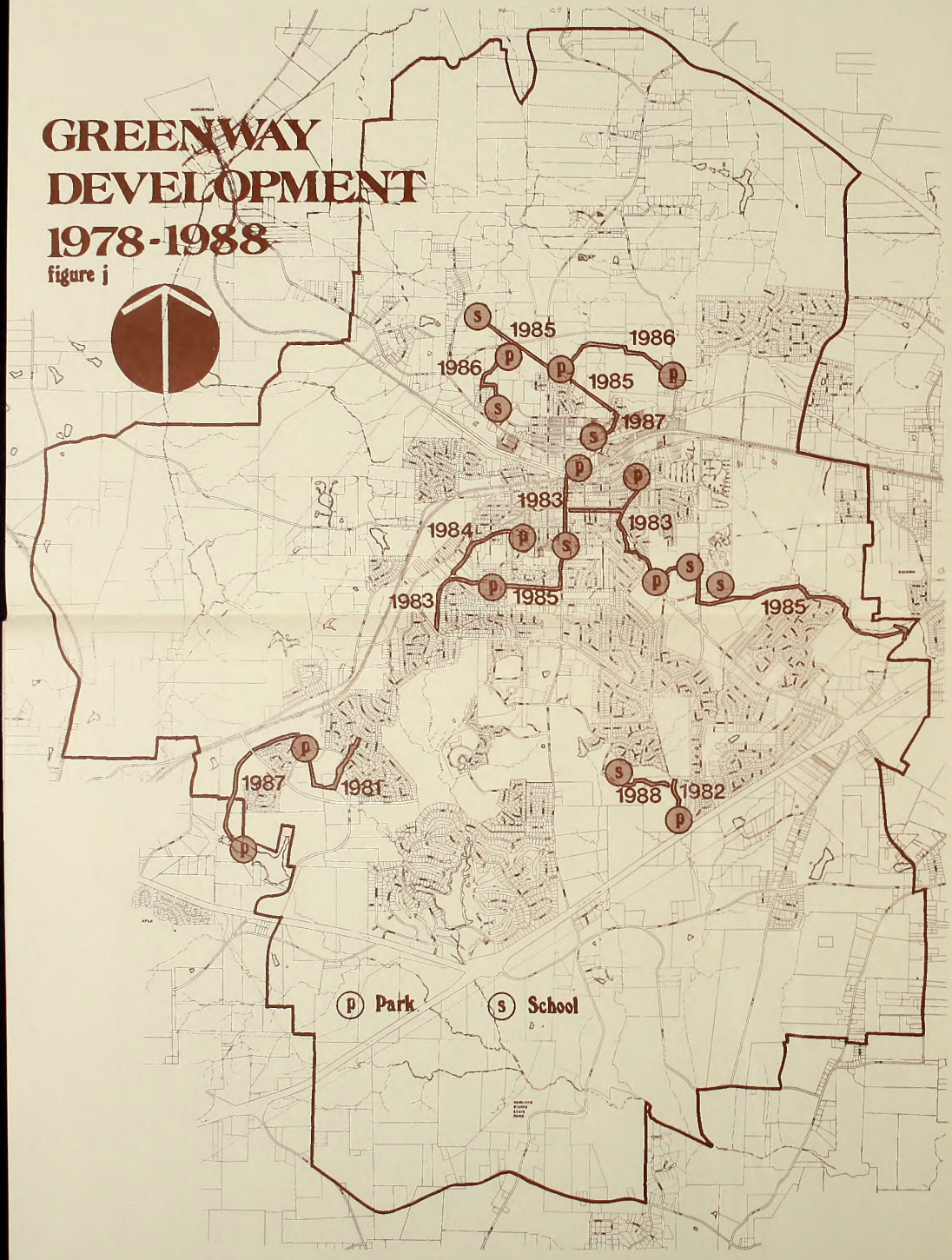
FIGURE K

	Greenway Acquisition and Development	Approx. Length
1981	*Tarbert — Gatehouse link thru Tarbert Park to Cary Parkway	1 mi.
1982	*McDonald Woods Park Link	1/2 mi.
1983	*Pamlico Link to Dorothy Drive Park	2/3 mi.
	*Academy Street: Town Hall to Cary Elementary	1/2 mi.
	*Urban Park to Walnut Street Tennis Courts (via East Cary Junior High)	1 mi.
1984	*Pamlico extension to Heater Park	2/3 mi.
1985	*Cary Elementary to Dorothy Drive Park	1 mi.
	*Ivy Meadows — Henry Adams link	1 3/4 mi.
	*Gas line easement: Briar Creek to Gregory Drive	2 mi.
1986	Jordan Park to Northwoods Elementary	1/2 mi.
	Jordan Hall to 1981 Reedy Creek Neighborhood Park	4/5 mi.
1987	Scottish Hills to Apex Reservoir Park	1 mi.
	Gregory Drive to Kingswood Elementary	1/3 mi.
1988	Farmington Woods Elementary to McDonald Woods Park	1/3 mi.
1989	Kingswood Elementary to Town Hall	1/3 mi.
	Urban Park to 1987 Johnson Creek Mini-Park	4/5 mi.
1990	Tarbert Link to 1989 Scottish Hills Mini-Park	4/5 mi.
	McDonald Woods Park to Cary High	1 mi.
	Gas Line Easement to West Cary Junior High	1/5 mi.
1991	1984 Black Creek Neighborhood Park to gas line easement	1 mi.
1992	Pamlico Drive Mini-Park to 1989 Scottish Hills Mini-Park	1/2 mi.
	Pamlico Drive Mini-Park to Briarcliff Elementary	4/5 mi.
	Lane Field to 1990 Upper Crabtree Creek Neighborhood Park	1 mi.
1993	1990 Watershed #7 Mini-Park to McDonald Woods Park-Cary High link	4/5 mi.
	Ivy Meadows Link to 1992 Johnson Creek Mini-Park	1/2 mi.
1994	1992 Watershed #7 Mini-Park to Dunham's	1/4 mi.
1995	1992 Watershed #7 Mini-Park to McDonald Woods link	1 1/3 mi.
1996	Gas line easement thru 1992 Neighborhood Park to Crabtree Creek	2 mi.
	1988 Upper Crabtree Creek Neighborhood Park to 1993 Upper Crabtree Creek Mini-Park	1 1/5 mi.
	1981 Reedy Creek Neighborhood Park to 1993 Reedy Creek Neighborhood Park	1 mi.
1997	Farmington Woods Elementary to 1998 Watershed #8 Mini-Park	3/4 mi.
	*1993 Reedy Creek Neighborhood Park to Raleigh tie-in	1 mi.
1998	1984 Black Creek Neighborhood Park to 1995 Reedy Creek Mini-Park	4/5 mi.
	1988 Coles Branch Neighborhood Park to Crabtree Creek	4/5 mi.
1999	1995 Reedy Creek Mini-Park to 1996 Reedy Creek Neighborhood Park	4/5 mi.
	1996 Reedy Creek Neighborhood Park to 1996 Reedy Creek Link	1 mi.
2000	*Crabtree Creek from Lake #3 Community Park to Briar Creek	4 mi.
	1988 Upper Crabtree Creek Neighborhood Park to Pamlico Link	1 1/5 mi.
	1988 Johnson Creek Community Park to 1985 Johnson Creek Mini-Park	2/5 mi.
2001	1993 Upper Crabtree Creek Mini-Park to Lake #3 Community Park	1 mi.
	1990 Black Creek Community Park to Briar Creek	4/5 mi.
	*Crabtree from Briar Creek to Umstead Park	2 mi.

*Commission Priorities

GREENWAY DEVELOPMENT 1978-1988

figure j



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	Gregory Drive to Kingswood Elementary	1/3 mi.
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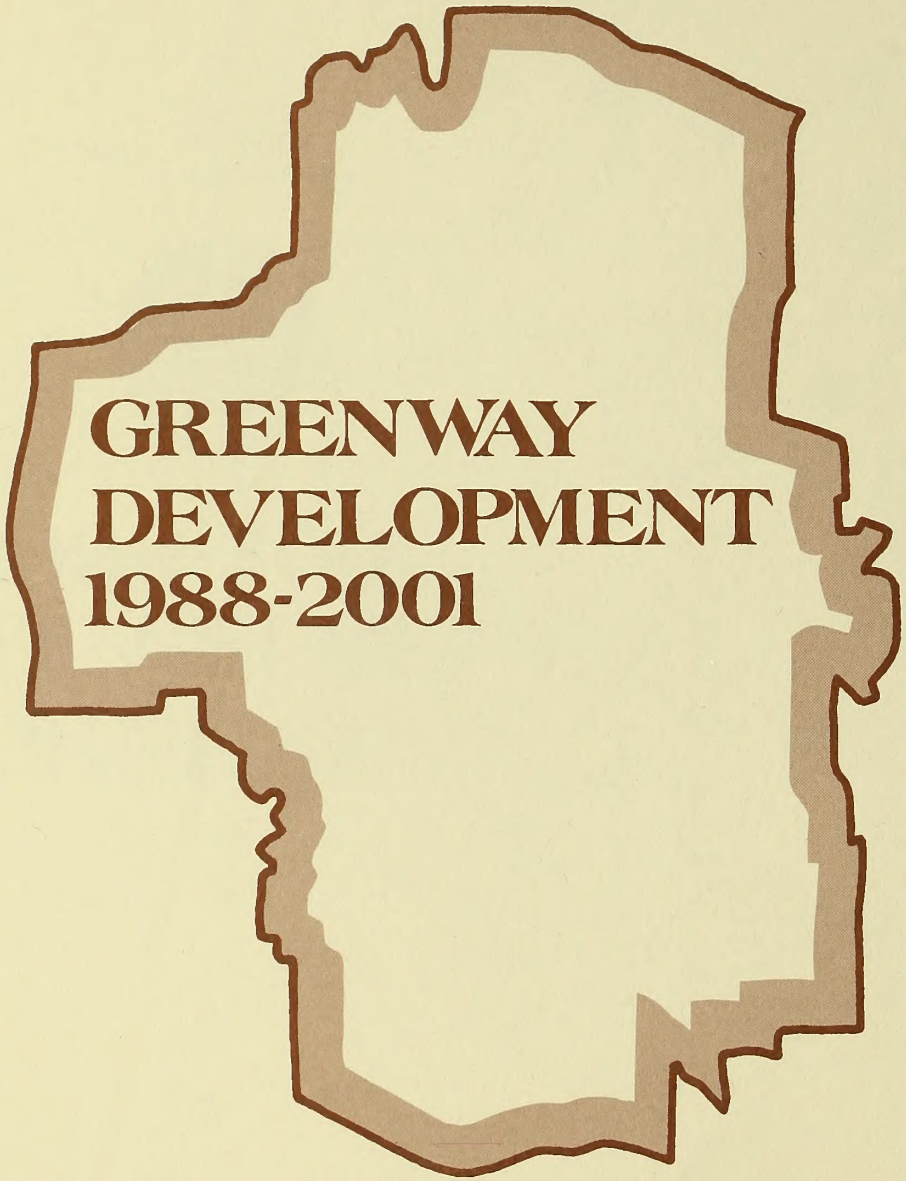

GREENWAY
DEVELOPMENT
1988-2001

GREENWAY ACQUISITION AND DEVELOPMENT COSTS

It is very difficult to assign costs to these strips of open space since the widths of our greenways will vary according to location. Why will they vary? First, as a general rule, the smaller the stream we are following, the smaller the width of the greenway. The sizes of the streams and creeks in the Cary area will call for greenway widths ranging from 80 feet to 200 feet. Second, critical environmental areas will cause a variation in greenway widths. Areas of steep slopes, poor soils, etc. will call for wider greenway corridors to aid their stabilization. Third, different land uses will cause variations in the corridor widths.

For the purpose of establishing acquisition costs, we will assume the average corridor will be 100 feet wide. Figures used by the City of Raleigh indicate that the acquisition cost of a 100 foot corridor would be $25,000 per mile. If we also assume that we receive one-half of our greenway land through the Open Space Dedication Ordinance, gifts, easements, etc. this figure becomes $12,500 per mile.

By adding the greenway lengths from Figure K, we have 40.10 miles of greenway to acquire and develop. At $12,500/mile the total acquisition price will be $501,250.

For purposes of development, the Raleigh assumptions call for one-third of all trails to be bicycle/pedestrian and paved at $30,000/mile. The remaining two-thirds of their trails will remain primarily natural at development costs of $3,300/mile. With 13 miles of greenway being developed at $30,000/mile and 27 miles of greenway being developed at $3,300/mile our total development costs will be $478,100. We now have a total acquisition and development cost of $980,350.

Total Greenway Mileage	40.10 Miles
One-third — Paved Mileage	$390,000
Two-thirds — Unpaved Mileage	$ 89,100
Acquisition Cost	$501,250
Development Cost	$479,100
Total Cost (Thru 2001)	$980,350

Note: Decisions on where the paved links will be and the natural greenway links will be cannot be made until actual locations are found, land uses are existing or planned, and citizens needs are surveyed.

Breaking the mileages and costs down into our five-year time periods, we see the following results:

1980-1983 Greenway Development

Total Mileage	3.66 miles		
One-third (Paved)	$ 36,600		
Two-thirds (Unpaved)	$ 7,052		
Acquisition Cost	$ 45,750		
Development Cost	$ 33,652	Total 1983	$79,402

1983-1988 Greenway Development

Total Mileage	8.40 miles		
One-third (Paved)	$ 84,000		
Two-thirds (Unpaved)	$ 18,488		
Acquisition Cost	$105,000		
Development Cost	$102,480	Total 1983-1988	$207,480

1988-1993 Greenway Development

Total Mileage	7.73 miles		
One-third (Paved)	$ 77,100		
Two-thirds (Unpaved)	$ 17,028		
Acquisition Cost	$ 96,625		
Development Cost	$ 94,128	Total 1988-1993	$190,753

1993-1998 Greenway Development

Total Mileage	9.13 miles		
One-third (Paved)	$ 90,000		
Two-thirds (Unpaved)	$ 29,800		
Acquisition Cost	$114,125		
Development Cost	$109,800	Total 1993-1998	$223,925

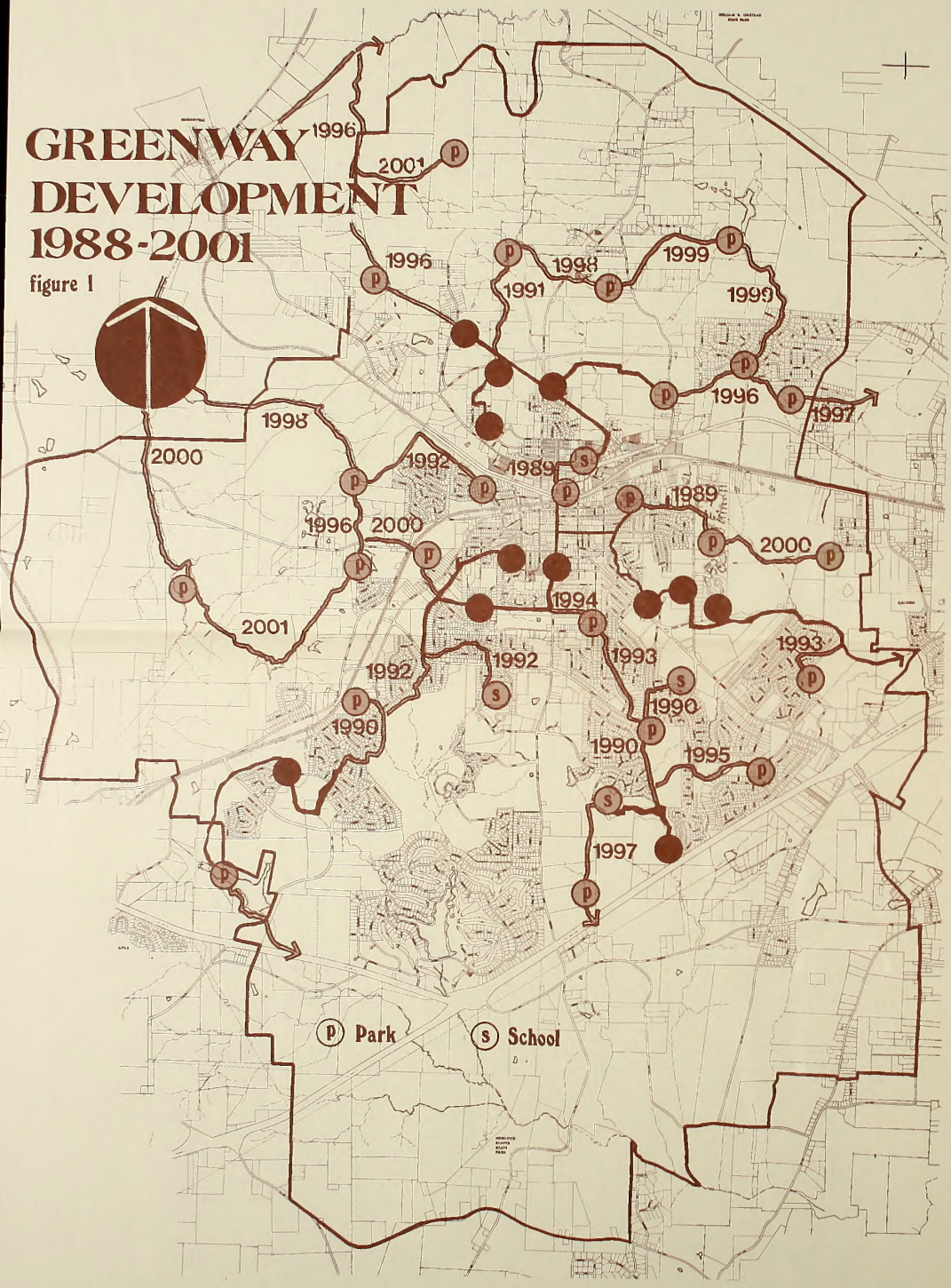
1998-2001 Greenway Development

Total Mileage	11.2 miles		
One-third (Paved)	$111,000		
Two-thirds (Unpaved)	$ 24,750		
Acquisition Cost	$140,000		
Development Cost	$135,750	Total 1998-2001	$275,750

Total Greenway Development $977,310

GREENWAY DEVELOPMENT 1988-2001

figure 1



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CONCLUSION

Can all of these different kinds of spaces be linked together? This is the great opportunity. These connective strips are worthwhile in their own right, but they become even more functional when they are tied in with other strips of open space — with community parks, school sites and with the open spaces of cluster developments. The total acreage is not a significant figure. What can make the acreage so effective is the fact of linkage, and a few relatively small spaces can often make the difference.

The drainage network is the key. The land along the creeks is under a variety of ownerships — golf courses, county parks, town parks, utilities, and residential. The problem is not so much to bring them under one ownership as to get a joint program for protecting them. There are missing links and interruptions here and there, but eventually there should be a fairly continuous chain.

Utility rights-of-way furnish another set of connectors. Along much the same axis as the creeks, rights-of-way for high-tension lines and waterways cross the land. Usually, such rights-of-way are regarded as wasteland but under the Santa Clara Greenway Program they are to be landscaped into an 8-mile network of trails, with "nodules" of open space provided by eighteen school sites. Several municipalities have already taken action and have developed vest-pocket parks in the rights-of-way. By linking open spaces, as these examples demonstrate, we can achieve a whole that is better than the sum of the parts. But it is important to remember that the parts come first. Each has to be functional in its own right; it must already exist and if it doesn't there must be a very good reason for it. There is no point in forcing a complete and continuous system just for the sake of having a system. For one thing, filling in all the missing links would lead to impossible cost situations. Many of the pieces would be extremely expensive to buy up and unless there were other more compelling reasons for the acquisitions, it would be very hard to justify the expense on the basis that continuity demands it.

Highway interruptions are another problem. In some cases pedestrian overpasses or tunnels are the answers, but the recreational use must be intensive to warrant them. They are enormously expensive, and if the highway is six- or eight-lanes virtually prohibitive in cost.

Full continuity is not so critical. Most people do not use open spaces that way. Even where there is an uninterrupted system, people do not necessarily use it as a system — they use the parts of this system. A check would probably indicate that at any one point along the way the use will be predominately local. Cyclists and horseback riders seek fairly long stretches and so do some hikers. However, most people will come back to the same spots time and again, and few will ever travel the whole system or be aware of its extent. This system will be used heavily, and there is every reason to try to link it together. The regionality of it, however, is not its essential characteristic. The best regional networks are networks of locally useful spaces.

There would be a design. It would not be that of the drafting table, with its order and symmetry, but there is another design that is far better. It is the design that nature has provided.

It is pointless, to superimpose an abstract, man-made design on the region as though nothing is there. Thousands of years of rain and wind and tides have laid down a design. Here is our form and order. It is inherent in the land itself — in the pattern of the soil, the slopes, the woods, above all in the patterns of streams and rivers.

Where the water flows, the positive benefits of open space are the clearest. It will still be a tough job in the face of competing pressures, but along the drainage network we can use the maximum overlay of benefits, for the land most necessary for flood control and the conservation of water resources tends to be the land that is the most beautiful and the most suitable for recreation and open space.

RECOMMENDATIONS

With the purpose of assuring a successful recreation program here in Cary, we make the following recommendations:

1. In order to have a continuing source of money available for land acquisition and park development, a 5¢ tax for recreational purposes is needed. Without a constant flow of money, this acquisition and development will be done in a more piece-meal fashion never adequately meeting the needs of the Townspeople.
2. There is a great deal of grant money available for recreational purposes. By taking the time to find where this grant money is and completing the grant applications, you can double or triple your buying dollar. Since grants are also available to many other departments within Town government, we recommend the hiring of a grantsman or having one existing staff member take care of this responsibility. Through grant funds available, he would easily generate his salary each year along with enabling the Town to provide better living conditions.
3. Another way to stretch the Town's buying dollar is through multi-use purchases — for example if land was needed to build a public works facility, you could purchase extra land for the purpose of building a park. The purchase of a larger piece of land would possibly give a cheaper rate per acre and would also open the way for either project to be funded by a wider range of sources.
4. We need to use our school facilities as much, if not more in the future, than we are now. It is imperative that communication lines remain open between the Town, the School Board and the administration of each individual school. A possibility at some point is the acquisition of Cary Elementary School as a recreation facility when it is no longer being used as a school.
5. Swimming pools built in the future can possibly be built in conjunction with new schools. Again, the multiple use would help spread the expense and benefit more people.
6. With downtown improvement becoming an important priority, the incorporation of recreation plans will make dollars go further and help preserve open space in the downtown sector. Downtown parks and greenways can easily be included while planning is in the beginning stages.
7. There are many ways to obtain land besides outright purchase (See Appendix). Town leaders need to be bold and innovative in using these methods with the purpose of obtaining more land for less money.
8. A Parks Division should be established within the Recreation Department and included in this would be the maintenance program for all parks. This portion of the Recreation Department is becoming large enough to necessitate a parks department and it will aid in the planning, administering, and maintenance of the park system.
9. This plan should receive an annual update by the Planning and Recreation Departments. Each year with an increase in population, the number of private facilities, and the number of public facilities, the success of the overall plan will depend on it changing constantly to reflect these figures.

APPENDICES

APPENDIX A

METHODS OF LAND ACQUISITION

There are various means of acquiring land for park and recreational purposes. The easiest and most direct method of obtaining land is through *outright purchase* with the advantage of having clear title. However many times this is not possible because of limited funds. There are other methods the Town can use to obtain the needed land before it is lost. Some of the methods are briefly explained below:

Donations. Gifts of land can be used for recreational purposes or donations of money can be used for the purpose of purchasing recreational land. This is a much overlooked method of land acquisition and Town officials should be imaginative and aggressive in initiating this. For example, there are many tax advantages for a donor of land.

Subdivision Regulations. This requires developers of land to contribute to the municipality a percentage of that land for recreational use. The developer may have the option of contributing an eguivalent amount of money which is used to buy recreational land elsewhere in the Town. This regulation presently exists in Cary.

Tax Sales. Purchase of recreational land may be acquired at tax sales or directly from the agency handling tax delinguent properties. This method will generally help most in the older, more densely populated areas of Cary.

Condemnation. Acquisition of parkland through eminent domain is frequently necessary. There must be due process of law and just compensation paid to the owner. Condemnation is generally a last resort in land acguisition since it involves court proceedings and is time consuming.

Purchase-leaseback. In this method the Town buys property before it is to be developed and then turns around and leases all or part of it until the land is needed for recreational purposes. (Provisions prohibit permanent structures.)

Lease With Option to Purchase. Here the Town leases the property until it decides the land is needed on a permanent basis or until money is available for purchase.

There are various methods to acquire the use of land without acquiring outright ownership to that land. These can be with various governmental agencies, civic groups, private owners, and through the Town's right to control and regulate land.

Zoning. Cluster zoning, flood-plain zoning, and open space zoning. Flood plain zoning assures that land subject to flooding will not be developed intensively. Cluster zoning works according to an averaging concept which trades a reduction of required lot sizes for the dedication of recreation land. Cary presently has only a zoning classification of Resource and Conservation which sets aside land for recreational purposes.

Cooperative Agreements. Agreements may exist between the Town and schools, utility companies, civic groups, and private citizens.

Easements. This is basically an interest or right in land which is less than full or fee simple interest. An easement may exist to allow a sewer line to pass through a pieceof property. It may also exist to allow public access through a development — which is what would occur in some greenway easement situations. An easement can be tailored to the interest of the individual landowner and the specific characteristics of the land to allow the landowner and the Town to benefit.

Combination Purchase/Donation. Between these two methods are variations that can exist:

a. Reserved Life Estate is when a property owner donates his property to the Town but is allowed to continue using the property as long as he lives while receiving tax deductions.

b. Bargain sale is when an owner sells his land to the Town at its original cost to him and then takes the capital gains as a deduction.

c. A third variation allows the landowner to dedicate as an easement a portion of his land (i.e. floodplain land, public access along a property line, etc.) and receive tax deductions on his property.

Restrictive Covenants. Deed restrictions governing the use of land even though the ownership changes.

APPENDIX B

METHODS OF FINANCING

Bonds. The Town has the power to issue bonds for the financing of land acquisition or capital improvements. This usually must be approved by referendum vote. These funds are generally used on large projects — land acquisition, community centers, swimming pools, golf course, etc.

Taxation. The Town has the authority to levy taxes on such items as real property, sales, personal property, and gasoline for various public purposes that may include recreation. Almost all major cities in North Carolina derive revenue from a tax levy, and with Cary's rapid and continuous growth, the Town will soon have to do the same. The major advantage to a recreation tax is having a constant source of money continually coming in. This enables more accurate planning to take place and there is a better chance to obtain grant monies with this planning.

Fees and Charges. Charges for facility use, parking, membership fees, etc. are commonly used sources of revenue that may be used to finance recreation development and land acquisition. This method is becoming more and more significant in most cities in North Carolina as the squeeze on the tax dollar becomes greater. Special facilities such as tennis centers, golf courses, handball facilities and swimming pools should bear the cost of their operation.

Grants. An increasing number of programs are being established for the purpose of assisting local agencies in the acquisition and development of park land. Thus far the Town has received aid from Wake County, the State of North Carolina and The Bureau of Outdoor Recreation but the surface has only been scratched in this area. The Town would benefit greatly from hiring a grantsman strictly to apply for grants and administer these grants — the extra money received would more than compensate for the expense.

APPENDIX C

AN ORDINANCE AMENDING THE SUBDIVISION ORDINANCE TO REQUIRE THE DEDICATION OF LAND FOR RECREATION AND PARK PURPOSES IN ALL NEW SUBDIVISIONS OF LAND WITHIN THE SUBDIVISION JURISDICTION OF THE TOWN, AND MAKING CONFORMING AMENDMENTS IN THE ZONING ORDINANCE.

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF CARY:

Section 1. The Subdivision Ordinance of the Town is amended by adding a new Section XV reading as follows:

"XV. DEDICATION OF LAND FOR PARK, RECREATION AND OPEN SPACE PURPOSES.

1. **General Provisions**
Every subdivider who proposes a subdivision of land for residential purposes shall dedicate a portion of such land, as set forth herein, for the purpose of public park, recreation, and open space sites to serve the residents of the neighborhood in which the subdivision is located.

2. **Amount of Land to be Dedicated.**
a.) One thirty-fifth (1/35) of an acre shall be dedicated for each dwelling unit planned or provided for in the subdivsion plan, except when land located in the flood plain of a stream as indicated by the flood plain maps of the Town, one twentieth (1/20) of an acre of such land shall be dedicated for each dwelling unit.
b.) As a credit for land dedicated permanently for private recreation purposes pursuant to the Zoning Ordinance, Planned Unit Developments shall be required to dedicate, pursuant to this Section, the amount of land calculated pursuant to Subsection (a) above, or a total of twenty (20) acres, whichever is less.
c.) For purposes of this Section, the term "dwelling unit" shall mean a building or portion thereof designed, or arranged or used as living quarters for one family, and shall include mobile homes.

3. **Payments in Lieu of Dedication.**
a.) Any person required to dedicate land pursuant to this Section, with the approval of the Town Council, may make a payment in lieu of such dedication, or may make a combination dedication and partial payment in lieu of dedication. Any such payment in lieu of dedication shall be the product of the number of acres to be dedicated and the average fair market value of the land being subdivided at the time of submission of the preliminary subdivision plan, or the initial submission of the Master Land Use Plan in the case of a Planned Unit Development. All payments received by the Town pursuant to this Section shall be used only for the acquisition or development of recreation, park, or open space sites.
b.) In the case of disagreement between the Town and the subdivider as to fair market value, such determination shall be made by a special appraisal committee made up of one professional appraiser appointed by the subdivider, one professional appraiser appointed by the Town Council, and one professional recreator appointed by the initial two members. The committee shall view the land and hear the contentions of both the town and the subdivider. The findings of the committee shall be by majority vote and shall be certified to the Town Council within thirty (30) days of the time of appointment of the third member of the committee. The costs of the professional land appraiser appointed by the subdivider shall be borne entirely by the subdivider. All other costs shall be borne by the Town.

4. **Nature of Land to be Dedicated.**
a.) **Unity**: The dedicated land shall form a single parcel of land except where it is determined by the Town Council upon recommendation of the Planning and Zoning Board that two or more parcels would be in the public interest; and in such case, the Council may require that such parcels be connected by a dedicated strip of land at least thirty (30) feet in width.
b.) **Useableness**: One-third (1/3) of the dedicated land shall be useable for active recreation; lakes may not be included in computing the one-third (1/3) of the dedicated land deemed useable for active recreation.
c.) **Shape**: The shape of the portion of the dedicated land deemed useable for active recreation shall be sufficiently square or round to be useable for activities such as softball, tennis, croquet, and similar activities.
d.) **Location**: The dedicated land shall be located so as to reasonably serve the recreation and open space needs of the subdivider for which the dedication was made.
e.) **Access**: Public access to the dedicated land shall be provided either by adjoining street frontage or public easement at least thirty (30) feet in width.
f.) **Topography**: Slope on areas dedicated for active recreation shall not exceed fifteen percent (15%), unless all topography dictates otherwise.

5. **Authority to Sell.**
The Town Council will have the authority to sell land dedicated pursuant to this Section, but the proceeds of any such sale shall be used only for the acquisition of other recreation, park or open space sites.

6. **Procedures.**
a.) At the time of filing a preliminary plat, or the filing of a Master Land Use Plan for a Planned Unit Development, the subdivider shall designate thereon the area or areas to be dedicated pursuant to this Section. If the subdivider desires to make a payment in lieu of the dedication of land, a statement to that effect shall be submitted with the preliminary plat.
b.) Upon receipt of a preliminary plat or Master Land Use Plan the Director of Planning and Development shall submit a copy thereof to the Director of Recreation for consideration by the Recreation Commission. If the Recreation Commission desires to submit comments or recommendations to the Planning and Zoning Board concerning the preliminary plat, it shall do so within twenty (20) days of receipt of the plat by the Director of Recreation.
c.) Where a dedication of land is required, such dedication shall be shown on the final plat when submitted, and such plat shall be accompanied by an executed general warranty deed conveying the dedicated land to the Town of Cary. Where a payment in lieu of dedication is approved by the Town Council such payment will be made at the time the final plat is submitted."

Section 2. Article VI of the Zoning Ordinance, entitled "Planned Unit Development," is amended as follows:
a.) By adding to Section 2.3 a new Subsection "d" as follows: "d. Where land is dedicated to the Town for park and recreation purposes pursuant to the Subdivision Ordinance, such land may be included as a part of the open space requirement of this Section."
b.) By changing the period at the end of Subsection (c) of Section 3.1 to a comma and adding "or to be dedicated pursuant to the Subdivision Ordinance."

Section 3. The provisions of this Ordinance shall not apply to subdivisions which have, as of the effective date hereof, received either preliminary or final plat approval by the Town Council, nor to subdivisions within Planned Unit Developments which have, as of the effective date hereof, received Master Land Use Plan approval by the Town Council.

Section 4. All ordinances in conflict with the provisions of this Ordinance are repealed.

Section 5. This Ordinance is effective upon its adoption.

APPENDIX D

STANDARDS

STANDARDS FOR SPECIAL FACILITIES

The following standards are recommended for individual recreation facilities:

Facility (outdoor)	Standard/ 1000 people	Comment
Baseball Diamonds	1 per 6,000	Regulation 90'
Softball Diamonds (and/or youth diamonds)	1 per 3,000	
Tennis Courts	1 per 2,000	(Best in battery of 4)
Basketball Courts	1 per 500	
Swimming Pool—25M. Swimming Pools—50M.	1 per 10,000 1 per 20,000	Based on 15 sq. ft. of water for ea. 3% of pop.
Skating Rinks (artifical)	1 per 30,000	
Neighborhood Centers	1 per 10,000	
Community Centers	1 per 25,000	
Outdoor Theaters (non-commercial)	1 per 20,000	
Shooting Ranges	1 per 50,000	Complete complex incl. high power, small-bore, trap and skeet, field archery, etc.
Golf Courses (18 hole)	1 per 25,000	

BY CLASSIFICATION AND POPULATION RATIO

Classification	Acres/ 1000 People	Size Range	Population Served	Service Area
Playlots	*	2,500 sq. ft. to 1 acre	500-2,500	Sub-neighborhood
Vest pocket parks	*	2,500 sq. ft. to 1 acre	500-2,500	Sub-neighborhood
Neighborhood Parks	2.5	Min. 5 acres up to 20 acres	2,000-10,000	1/4-1/2 mile
District parks	2.5	20-100 acres	10,000-50,000	1/2-3 miles
Large urban parks	5.0	100 + acres	One for ea. 50,000	Within 1/2 hr. driving time
Regional parks	20.0	250 + acres	Serves entire population in smaller communities; should be distributed throughout larger metro areas	Within 1 hr. driving time
Special Areas & Facilities	*	Includes parkways, beaches, plazas, historical sites, flood plains, downtown malls, and small parks, tree lawns, etc. *No standard is applicable.*		

*Not Applicable

APPENDIX E

POPULATION BY WATERSHED

	1975	1980	1985	1990	1995	2000
# 1 Upper Crabtree Creek	589	631	675	6300	9,800	13,400
# 2 Coles Branch	40	45	50	650	1,475	2,400
Oakwood Hts. / Sunset Hills	1,152	1,250	1,250	1,250	1,250	1,250
Cedar Creek	16	166	200	200	200	200
# 3 Crabtree Creek Trib.-6	183	210	250	1,600	2,300	3,000
# 4 Black Creek	190	241	306	3,300	6,100	9,400
Northwoods / Highland Park	722	917	1,164	3,600	3,600	3,600
# 5 Reedy Creek	1080	1665	2561	6000	8,350	10,700
# 6 Johnson Creek	884	1069	1293	1,800	2,300	2,800
Ivy Meadows / Walnut Ridge / Walnut Hills / Will. Manor	2,031	2,457	2,973	2,973	2,973	2,973
Old Cary East of S. Academy & Forest Park	663	750	750	750	750	750
Irongate / Mobile Estates	1,191	1,441	1,745	1,745	1,745	1,745
Pine Valley	300	363	450	450	450	450
# 7 Swift Creek Trib.-5	80	100	124	760	1,110	1,460
Greenwood Forest / Tanglewood / Pirates Cove	2,157	2,675	3,022	3,022	3,022	3,022
Meadowmont	490	607	750	750	750	750
Stoneybrook	399	425	425	425	425	425

	1975	1980	1985	1990	1995	2000
# 8 Swift Creek Trib.-6	245	264	285	1,664	2,164	2,664
# 9 Swift Creek	39	39	45	50	75	100
#10 Swift Creek Trib.-7	507	613	742	898	1,086	1,314
MacGregor Downs	1,350	1,663	1,976	2,391	2,893	2,893
Churchill Downs	9	243	243	243	243	243
Old Cary West of S. Acad. & Russell / Hills	1,499	1,600	1,600	1,600	1,600	1,600
Wishing Well Village	733	750	750	750	750	750
Briarcliff / Burtrose	814	850	850	850	850	850
Kildaire Farms	75	400	500	625	800	968
Scottish Hills / Savon Heights / Plantation Estates	1,076	1,302	1,575	1,575	1,575	1,575
#11 Upper Swift Creek	54	54	54	900	1,650	2,400
#12 Swift Creek Trib.-4	61	61	61	100	150	200

	1975	1980	1985	1990	1995	2000
Town Limits + Two-Mile E.T.J.	18,629	22,851	26,669	47,221	59,636	73,882
		1983	1988	1993	1998	
		25,141	39,000	54,670	68,183	

FOOTNOTES

[1]American Institute of Park Executives, **Open Land**, p. 11.

[2]Planning Advisory Service, "Parks and Property Values," American Society of Planning Officials Newsletter (October, 1960), p. 92.

[3]Roy A. Prewitt, **The Economics of Public Recreation** (Washington, D.C.: National Park Service, 1949), p. 27.

[4]ASPO Newsletter, p. 92.

[5]Ibid.

[6]Ibid.

[7]John Kenneth Galbraith, **The Affluent Society** (Boston: Houghton Mifflin Co., 1958), p. 262.

[8]Ibid., p. 265.

[9]Regional Plan Association, **The Race for Open Space** (New York: The Association, 1960), p. 20.

[10]President's Commission of Physical Fitness, Final Report (Washington, D.C.: Commission on Physical Fitness, 1960), p. 7.

[11]President John F. Kennedy, "Statement to American Recreational Congress," Washington, D.C., February 17, 1960.

[12]Isaiah 5:8, **Old Testament Bible**.

[13]William A. Spurrier, **Guide to the Christian Faith** (New York Scribner's Sons, 1955), p. 67.

[14]National Park Service, Conservation Quotes, p. 8.

[15]Paul Friedberg & Ellen Berkeley, **Play and Interplay**, p. 14.

[16]Higbee, **The Squeeze**, p. xi of Introduction by Fairfield Osborne.

[17]National Park Service, Conservation Quotes, p. 34.

[18]Verna Johnston, **Natural Areas for Schools** (Sacramento, Cal.: Conservation Education Section, State Department of Natural Resources, 1959), p. 11.

[19]President's Commission on National Goals, Goals for Americans (Prentice-Hall, Inc., 1960), p. 239.

[20]Research Triangle Institute, **Report on Outdoor Recreation in North Carolina** (Raleigh, N.C. 1967).

[21]Jane Jacobs, **The Death and Life of Great American Cities**. (New York: Random House, 1961) p. 111.

[22]Chip Kirkland, **The Cary News** "Cary Recreation Leagues Have Seen Many Changes."

[23]DeChiara and Koppelman, **Urban Planning and Design Criteria** p. 497.

[24]W.L. Flournay, Jr., **Capital City Greenway**, p. 29.

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This plan is a comprehensive, general and long-range guide to decisions about the recreation development of Cary. It is comprehensive in that the plan includes all geographical areas of the Town and all things pertaining to the development of these areas. It is general in that the plan summarizes policies but does not give specific locations or detailed regulations. It is long-range in that the plan looks past the immediate concerns to those that will be affecting us for the next twenty years.

The plan is part of the recreation planning process of Cary, a guide enabling the Town to move ahead with other planning tools. We all wonder if we will lose the smaller, more rustic Cary by progressively moving forward. This plan will help the Town resolve this question in at least one area — recreation and open space — by helping to prepare for this growth. The nature of the provision of open space and the preservation of this open space encompasses many areas that are beneficial to all citizens of the Town.